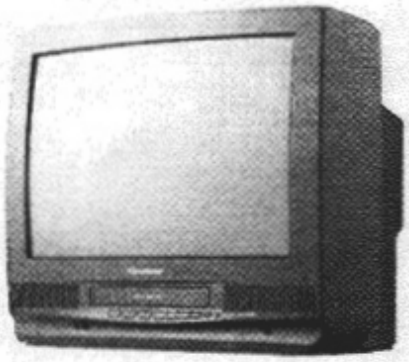


Panasonic
Professional/Industrial Video

VHS

Combination VCR

Operating Instructions

Models AG-513D/AG-520D

PRO LINE

As an ENERGY STAR® Partner, Matsushita Electric Corporation of America has determined that this product or product model meets the ENERGY STAR® guidelines for energy efficiency.

Energy

Please read these instructions carefully before attempting to connect, operate or adjust this product.
Please save this manual.

Important Safeguards and Precautions

READ AND RETAIN ALL SAFETY AND OPERATING INSTRUCTIONS. HEED ALL WARNINGS IN MANUAL AND ON UNIT

INSTALLATION

1 **POWER SOURCE CAUTION**
Operate only from power source indicated on unit or in this manual. If uncertain, have an Electric Utility Service Company or Video Products Dealer verify your home power source.

2 **POWER CORD PLUG**
For safety, this unit comes with a polarized type plug (one wide blade), or a three-wire grounding type plug.

POLARIZED PLUG CAUTION:
The plug fits into outlet one way. If it cannot be fully inserted, try reversing it. If it still will not fit, have an electrician install the proper wall outlet. Do not tamper with the plug.

GROUNDING PLUG CAUTION:
The plug requires a three-hole grounding outlet. If necessary, have an electrician install the proper outlet. Do not tamper with the plug.

3 **POWER CORD**
Make sure power cords are routed so they are not likely to have anything rest on them, roll over them, or be in the way of walking traffic. An extension cord should have the same type plug (polarized or grounding) and must be securely connected. Overloading wall outlets or extension cords may cause a fire hazard. Frayed cords, damaged plugs, and damaged or cracked wire insulation are hazardous and should be replaced by a qualified electrician.

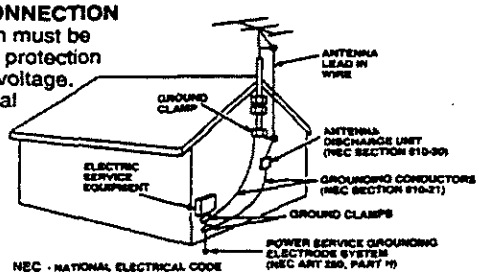
4 **DO NOT BLOCK VENTILATION HOLES**
Ventilation openings in the cabinet release heat generated during operation. If blocked, heat build-up may result in a fire hazard or heat damage to cassettes.
For your protection:
a. Never cover ventilation slots while unit is ON, or operate unit while placed on a bed, sofa, rug, or other soft surface.
b. Avoid built-in installation, such as a book case or rack, unless properly ventilated.

5 **AVOID EXTREMELY HOT LOCATIONS OR SUDDEN TEMPERATURE CHANGES**
Do not place unit over or near a heater or regulator, in direct sunlight, etc. If unit is suddenly moved from a cold place to a warm place, moisture may condense in unit and on the tape causing damage.

6 **TO AVOID PERSONAL INJURY**
- Never place unit on support or stand that is not firm, level, and adequately strong. The unit could fall causing serious injury to a child or adult and damage to the unit.
- Move any appliance and cart combination with care. Quick stops, excessive force, and uneven surfaces may cause objects to overturn.
- Carefully follow all operating instructions.

OUTDOOR ANTENNA INSTALLATION

1 **SAFE ANTENNA AND CABLE CONNECTION**
An outside antenna or cable system must be properly grounded to provide some protection against built up static charges and voltage. Section 810 of the National Electrical Code, ANSI/NFPA 70 (in Canada, part 1 of the Canadian Electrical Code) provides information regarding proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.


ANTENNA LEAD IN WIRE
GROUND CLAMP
ANTENNA DISCHARGE UNIT (NEC SECTION 810-20)
ELECTRIC SERVICE EQUIPMENT
GROUNDING CONDUCTORS (NEC SECTION 810-21)
GROUND CLAMPS
POWER SERVICE GROUNDING ELECTRODE SYSTEM (NEC ART 250, PART H)
NEC - NATIONAL ELECTRICAL CODE

2 **KEEP ANTENNA CLEAR OF HIGH VOLTAGE POWER LINES OR CIRCUITS**
Locate an outside antenna system well away from power lines and electric light or power circuits so it will never touch these power sources should it ever fall. When installing antenna, absolutely never touch power lines, circuits or other power sources as this could be fatal.

USING THE VIDEO UNIT

Before unit is brought out of storage or moved to a new location, refer again to the INSTALLATION section of these safeguards.

1 **KEEP UNIT WELL AWAY FROM WATER OR MOISTURE,** such as a kitchen sink, bath tub, pool, and so on.

2 **IF EXPOSED TO RAIN, MOISTURE, OR STRONG IMPACT,** unplug unit and have it inspected by a qualified service technician before use.

3 **ELECTRICAL STORMS**
During a lightning storm, or before leaving unit unused for extended periods of time, disconnect all equipment from the power source as well as the antenna and cable system.

4 **WHEN UNIT IS PLUGGED IN**
- Never expose to rain or water. DO NOT OPERATE if liquid has been spilled into unit. Immediately unplug unit, and have it inspected by a service technician. Fire and shock hazards can result from electrical shorts caused by liquid contact inside.
- Never drop or push any object through openings in unit. Some internal parts carry hazardous voltages and contact can cause electric shock or fire hazard.
- Avoid placing unit directly on top of, or underneath, a TV as this may cause electrical interference. Keep all magnets away from electronic equipment.

5 **USING ACCESSORIES**
Use only accessories recommended by the manufacturer to avoid risk of fire, shock, or other hazards.

6 **CLEANING UNIT**
Unplug unit. Use a clean, dry, chemically untreated cloth to gently remove dust or debris. DO NOT USE cleaning fluids, aerosols, or forced air that could over-spray, or seep into unit and cause electrical shock. Any substance, such as wax, adhesive tape, etc. may mar the cabinet surface. Exposure to greasy, humid, or dusty areas may adversely affect internal parts.

SERVICE

1 **DO NOT SERVICE PRODUCT YOURSELF**
If, after carefully following detailed operating instructions, the unit does not operate properly, do not attempt to open or remove covers, or make any adjustments not described in the manual. Unplug unit and contact a qualified service technician.

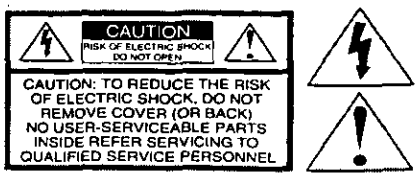
2 **REPLACEMENT OF PARTS**
Make sure the service technician uses only parts specified by the manufacturer, or have equal safety characteristics as original parts. The use of unauthorized substitutes may result in fire, electric shock, or other hazards.

3 **SAFETY CHECK AFTER SERVICING**
After unit is serviced or repaired, request that a thorough safety check be done as described in the manufacturer's service literature to insure video unit is in safe operating condition.

Safety Precautions

Warning: To prevent fire or shock hazard, do not expose this equipment to rain or moisture.
This video recorder, equipped with the HQ (High Quality) System, is compatible with existing VHS equipment.
Only use those tapes with the VHS mark. It is recommended that only cassette tapes that have been tested and inspected for use in 2, 4, 6, and 8 hour VCR machines be used.
This television receiver provides display of television closed captioning in accordance with §15.119 of the FCC rules.

FCC WARNING: Any unauthorized changes or modifications to this equipment would void the user's authority to operate.


CAUTION
RISK OF ELECTRIC SHOCK DO NOT OPEN
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK) NO USER-SERVICEABLE PARTS INSIDE REFER SERVICING TO QUALIFIED SERVICE PERSONNEL

This symbol warns the user that uninsulated voltage within the unit may have sufficient magnitude to cause electric shock. Therefore, it is dangerous to make any kind of contact with any inside part of this unit.

This symbol alerts the user that important literature concerning the operation and maintenance of this unit has been included. Therefore, it should be read carefully in order to avoid any problems.

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For Your Information

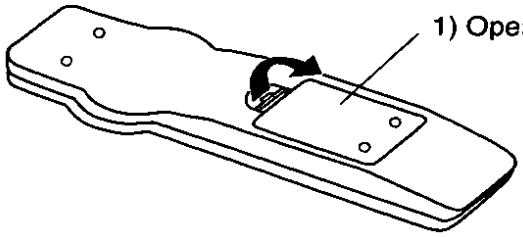
Before Using

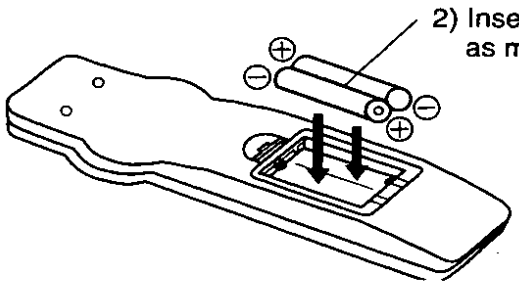
Congratulations

on your purchase of one of the most sophisticated and reliable products on the market today. Used properly, it will bring you and your family years of enjoyment. Please fill in the information below. The serial number is on the tag located on the back of your Combination VCR.

Date of Purchase _____
Dealer Purchased From _____
Dealer Address _____
Dealer Phone No. _____
Model No. _____
Serial No. _____

Loading the Batteries

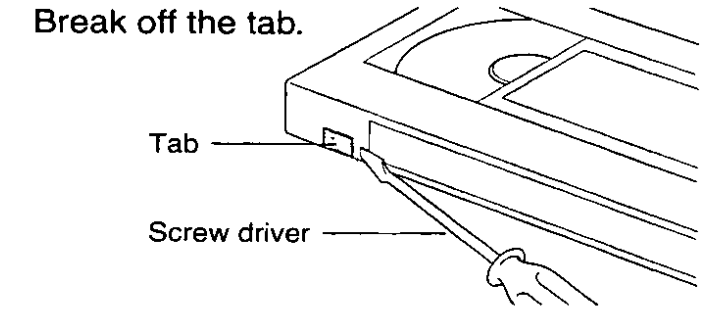


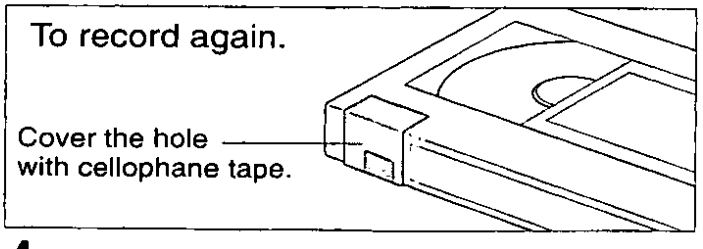


3) Close the cover.

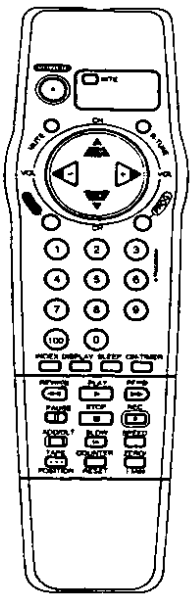
☐ **Battery replacement caution**
- Do not mix old and new batteries.
- Do not mix alkaline with manganese batteries.

Prevent Accidental Tape Erasure

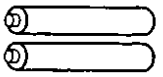




Accessories



☐ Remote Control
VSQS1609



☐ Batteries
2 "AA"

Head Cleaning

Clogged Video Head Picture

or

Blue Back
(During playback of pre-recorded tape)

Blue Back Screen

Clogged Video Heads
While your Combination VCR will not normally require head cleaning, however the heads may become clogged when playing an old or damaged tape. If the image on your screen resembles the illustration on the left or the screen becomes solid blue when playing back a recorded signal on the tape, the heads probably require cleaning.

Cleaning the Heads
It is recommended that head cleaning be performed by a qualified service technician. Please contact your nearest Panasonic Service Center. An alternate solution is to obtain a head cleaning cassette. Be sure to follow the cleaning instructions carefully. Excessive use of a cleaning cassette could shorten head life. Use this cassette only when symptoms occur.

Record/Playback Time

Only use tapes with the VHS mark in this unit.

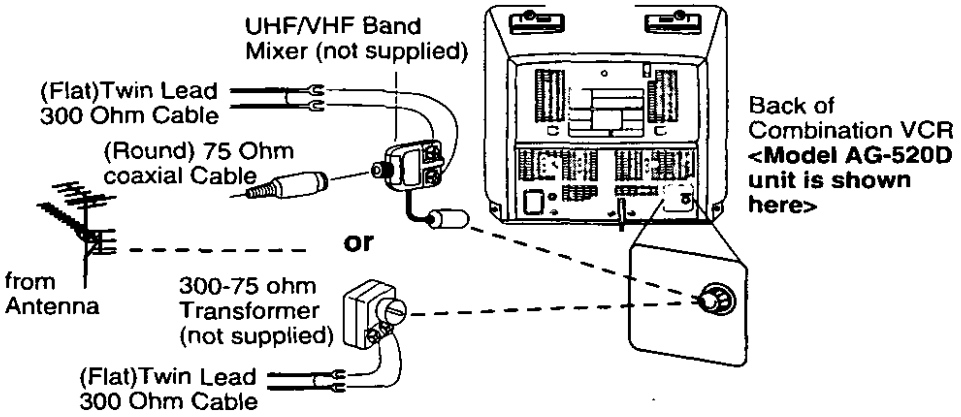
Tape Speed Setting	Type of Video Cassette		
	T60	T120	T160
SP (Standard Play)	1 Hour	2 Hours	2 Hours 40 minutes
LP (Long Play)	2 Hours	4 Hours	5 Hours 20 minutes
SLP (Super Long Play)	3 Hours	6 Hours	8 Hours

Connections

Outdoor Antenna Connections

Unhook the antenna from your previous TV or VCR and connect it to the back of the Combination VCR as shown in *the diagram*.
If your antenna system has separate UHF and VHF lead-ins, you need a UHF/VHF Band Mixer (not supplied).

WARNING:
When using "Nut type" RF coaxial cables, tighten with fingers only. Overtightening may damage terminals.

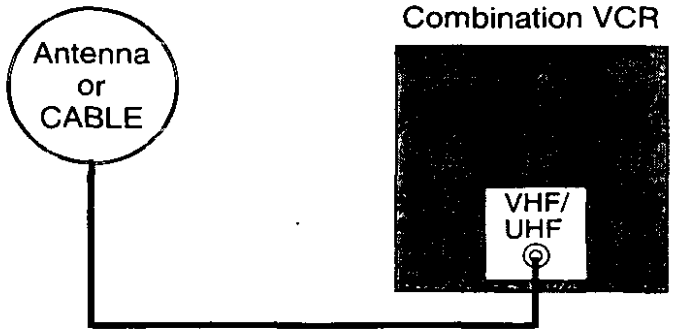


DSS/Cable box Connections

■ Without a Cable Box

You can;
- record or view unscrambled channels.

You cannot;
- record or view scrambled channels.
- view a channel other than the one selected for any type of recording.



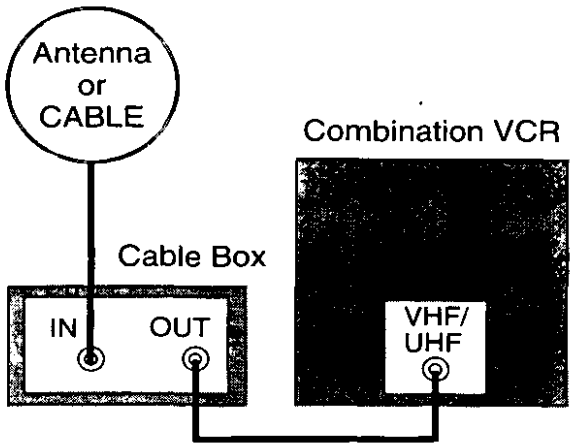
■ With a Cable Box

You can;
- record or view any channel including scrambled channels.

NOTE: Channel selection must be made at the cable box.

You cannot;
- view a channel other than the one selected for any type of recording.
- do a Timer recording of a channel unless you select it at the cable box.

Note to CABLE System Installer
This reminder is provided to call the CABLE (Cable TV) System Installers attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.



■ With a DSS Receiver

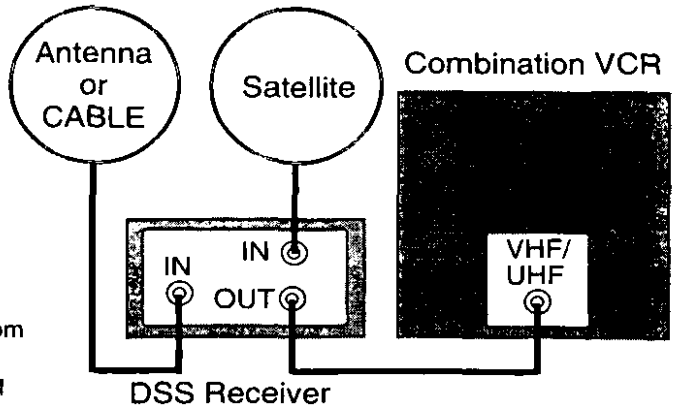
You can;
- record or view any channel including scrambled channels.

NOTE: Channel selection must be made at the DSS Receiver.

You cannot;
- view a channel other than the one selected for any type of recording.
- do a Timer recording of a channel unless you select it at the DSS box.

NOTE: The DSS receiver must be turned off to view programs from a cable box or antenna. See the DSS manual for details.

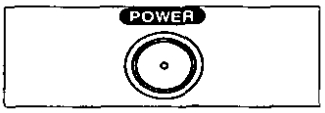
*DSS® is registered trademark of DIRECTV, INC., a unit of GM Hughes Electronics.



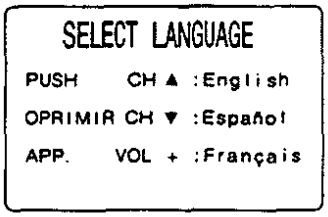
One Time Setup

Set the Clock (Initial Power On)

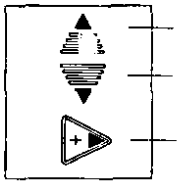
Your Combination VCR can be set to TUNER ON or TUNER OFF. When the Combination VCR is first turned on, the tuner is set to off and a prompt to set the clock is displayed. By selecting "TUNER:ON" (see below left), you can place channels in memory and/or use the Auto/Clock Set feature (see next page).

1 

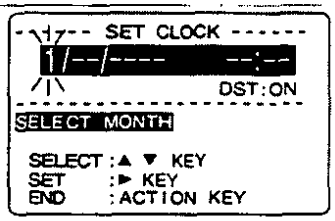
Press POWER on the remote or Combination VCR.

2 

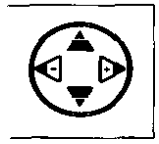
Select the language.



- If wrong language is set, do "Reset all Combination VCR Memory Functions" steps page 35.
- If you use a cable box, the cable box must be left on.

3 

Set the clock manually.



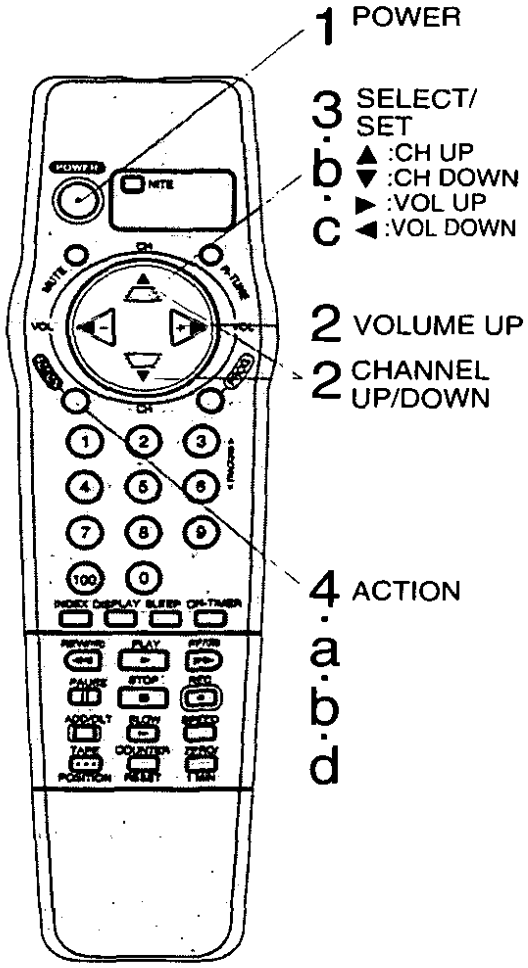
1) Press ▲▼ to select the month.
2) Press ▶ to set.
- Likewise set date, year, time, and DST (Daylight Saving Time).

To Make Corrections, repeatedly press ◀▶ to move to error, then correct.

4

End setup.

Press ACTION twice (Clock starts.)



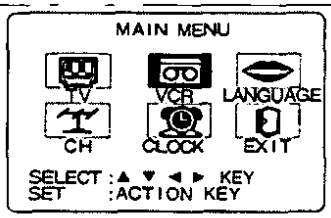
Select Tuner ON/OFF

When Tuner OFF is selected, your Combination VCR is automatically in LINE mode. When Tuner ON is selected, Channel selection, Input selection, Channel Add/Delete, etc. is available.

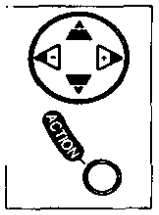
a

Display MAIN MENU.

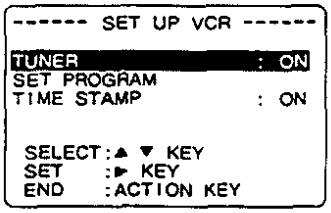
Press ACTION.

b 

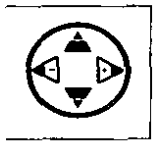
Display SET UP VCR screen.



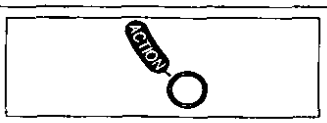
1) Press ▲▼◀▶ to select "VCR."
2) Press ACTION to display.

c 

Select TUNER.



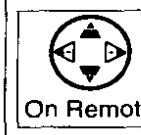
1) Press ▲▼ to select.
2) Press ▶ to set "ON" or "OFF."
- If you selected ON, go to the Set Up Channel and Auto Clock set selection on the next page.

d 

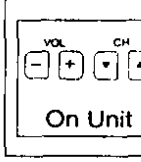
Return to normal screen.

Press ACTION twice.

Using ▲▼◀▶ keys



▲:CH UP
▼:CH DOWN
▶:VOLUME UP
◀:VOLUME DOWN



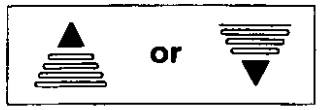
Whenever the menu or program screen is displayed, CHANNEL UP/DOWN and VOLUME UP/DOWN function as ▲▼◀▶ only.

Set up Channel and Auto Clock Set (TUNER:ON only)

Process of Setup

Language ⇨ Clock ⇨ Channel

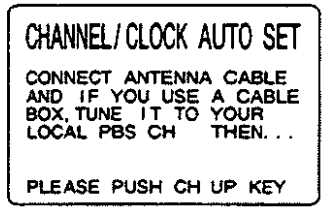
1 Display CHANNEL/ CLOCK AUTO SET screen.



Press CH▲ or CH▼.

- If you use a cable box, turn it on and select PBS station in your time Zone.

2 Start Channel Auto Set and Clock Auto Set.


CHANNEL/CLOCK AUTO SET
CONNECT ANTENNA CABLE AND IF YOU USE A CABLE BOX, TUNE IT TO YOUR LOCAL PBS CH THEN. . .
PLEASE PUSH CH UP KEY

Press CH▲.

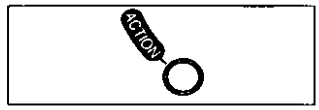
These on-screen displays will appear in sequence.

- CH AUTO SET PROCEEDING
- CH AUTO SET COMPLETED

When using Auto Clock Set

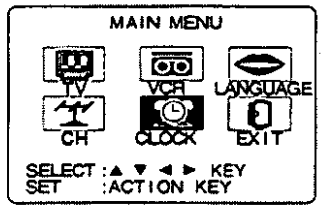
If you selected Auto Clock Set, the channel auto set appear automatically. (When Channel Auto Set is complete in above step, Auto clock Set is performed only.)

a Display MAIN MENU.



Press ACTION.

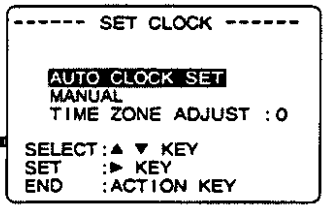
b Display SET CLOCK screen.



1) Press ▲▼◀▶ to select "CLOCK."

2) Press ACTION to display.

c Select AUTO CLOCK SET.



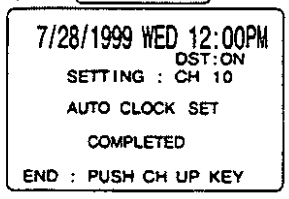
1) Press ▲▼ to select.

2) Press ▶ to start.

These on-screen displays will appear in sequence.

- CH AUTO SET PROCEEDING
- CH AUTO SET COMPLETED
- AUTO CLOCK SET PROCEEDING

Case 1

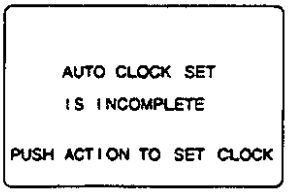


(Setup completed)

Press CH▲ to exit.

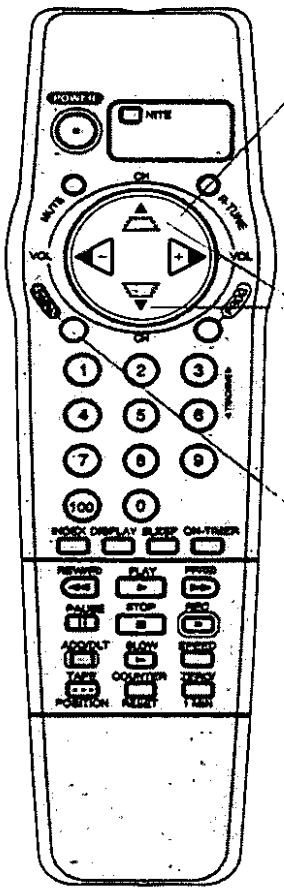
- If your area observes daylight saving time, but you would like to turn the DST feature off, do the Reset Clock steps on page 33 and set DST:OFF.
- If your area observes daylight saving time and DST is set to ON, but the time is incorrect; do the Time Zone Adjust steps on page 8.

Case 2



(Setup incomplete)

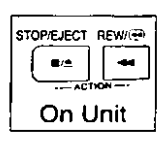
See Case 2 on the next page.



IMPORTANT NOTE FOR AUTO CLOCK SET

- Auto clock set is performed the first time when Combination VCR is turned off each day. If used, a cable box must be left on and tuned to the PBS channel at the time Combination VCR power is turned off if you want auto clock set to be done.
- If using, a DSS receiver, must be turned off for auto clock set.
- If Cable Box or DSS receiver is connected to Combination VCR via Audio/Video Jacks, an RF coaxial cable must also be connected for auto clock set and channel auto set features.
- If, for any reason, the time is changed manually, automatic time correction will not occur.

ACTION Control on the unit



You can operate the menu screen using unit buttons. To display the menu, press STOP/EJECT and REW together with no tape inserted.

To exit the menu, repeat above with or without tape inserted.

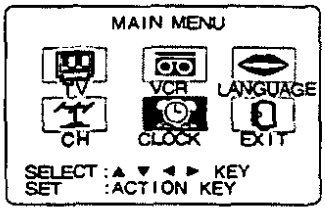
One Time Setup (continued)

Case 1 Set TIME ZONE ADJUST.

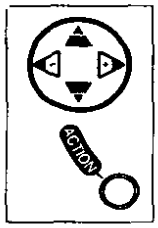
1

Display MAIN MENU.
Press ACTION.

2

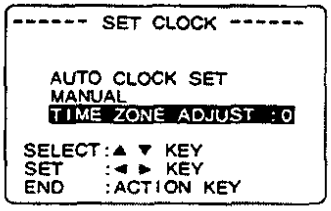


Display SET CLOCK screen.

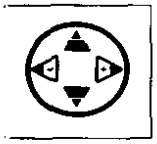


1) Press ▲▼◀▶ to select "CLOCK."
2) Press ACTION to display.

3



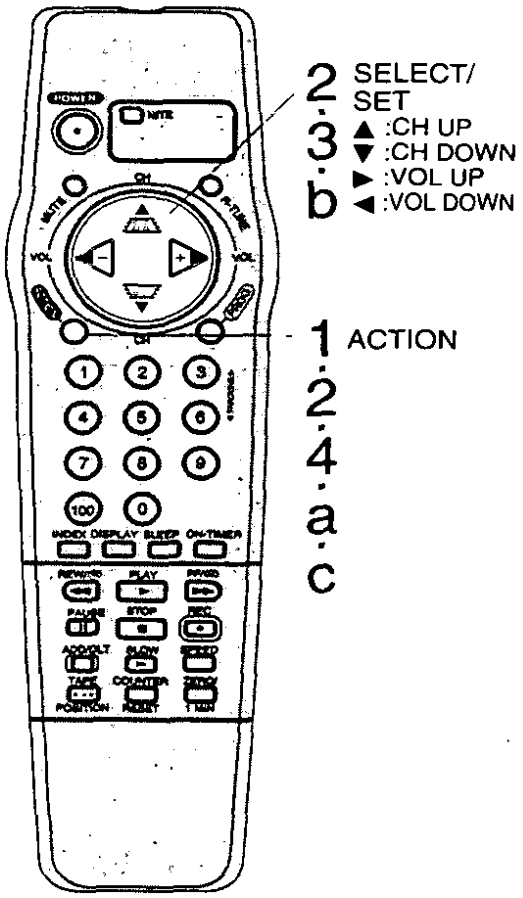
Select TIME ZONE ADJUST.



1) Press ▲▼ to select.
2) Press ◀▶ to subtract or add hour(s) as necessary.

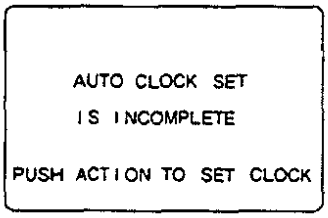
4

End setup.
Press ACTION twice.
- TIME ZONE ADJUST returns to "0" if clock is set manually.

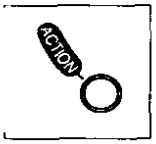


Case 2 Clock Setup is Incomplete. Set the clock manually.

a

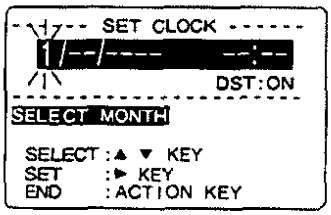


Display SET CLOCK screen.

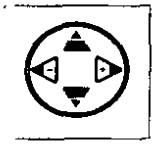


Press ACTION to exit this mode.

b



Set the clock manually.

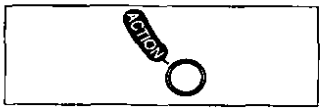


1) Press ▲▼ to select the month.
2) Press ▶ to set.

- Likewise set date, year, time, and DST (Daylight Saving Time).

To Make Corrections, repeatedly press ◀▶ to move to error, then correct.

c



End setup.
Press ACTION twice (Clock starts.)

Notes

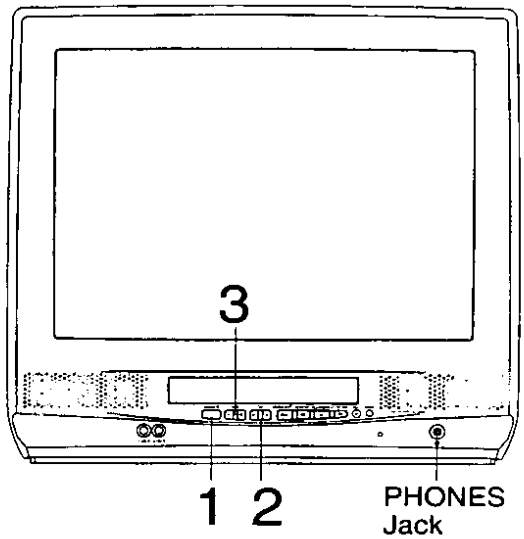
- This Combination VCR calendar is accurately maintained up to Dec. 31, 2089, 11:59PM.
- Channel auto set selects normal TV or Cable channels depending on your Combination VCR hookup.

TV Operation

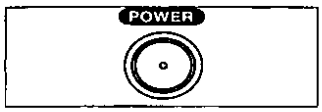
Check list before you begin.

- ☐ All connections are made (see page 5).
- ☐ Your Combination VCR is plugged in.

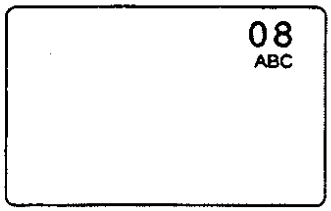
Model AG-520D unit is shown here.

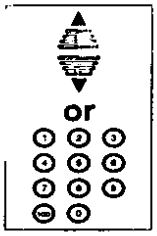


1 Press POWER on the remote or Combination VCR.



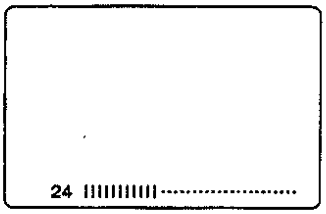
2 Select a channel.

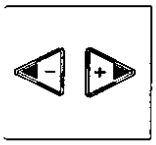




Using CH ▲▼ or NUMBERED keys.

3 Adjust volume.

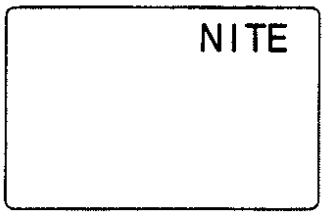




Press VOL+−.

NITE Mode

Color and picture intensity levels are adjusted so the screen is easier on your eyes during night time use.



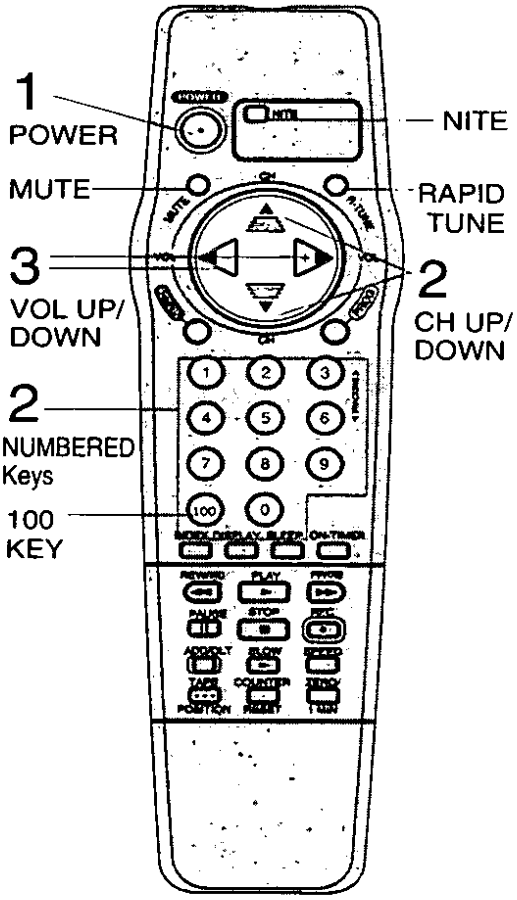
Set NITE mode.

Press NITE.

- NITE mode may be selected when watching TV or playing a tape.

To Cancel, press NITE.

- Previous settings are restored.
- NITE mode is cancelled when power is turned off or power failure occurs.



■ Using the 100 key (TUNER:ON only)

When selecting CABLE channels 100 to 125 with the NUMBERED keys, first press the 100 key, and then enter the remaining two digits.

■ Rapid Tune (TUNER:ON only)

Press R-TUNE to display the last channel you were watching.

■ Audio Mute

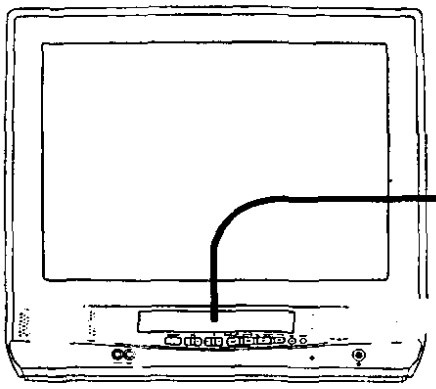
Press MUTE to instantly mute the sound.
Press again, to restore the previous sound level.

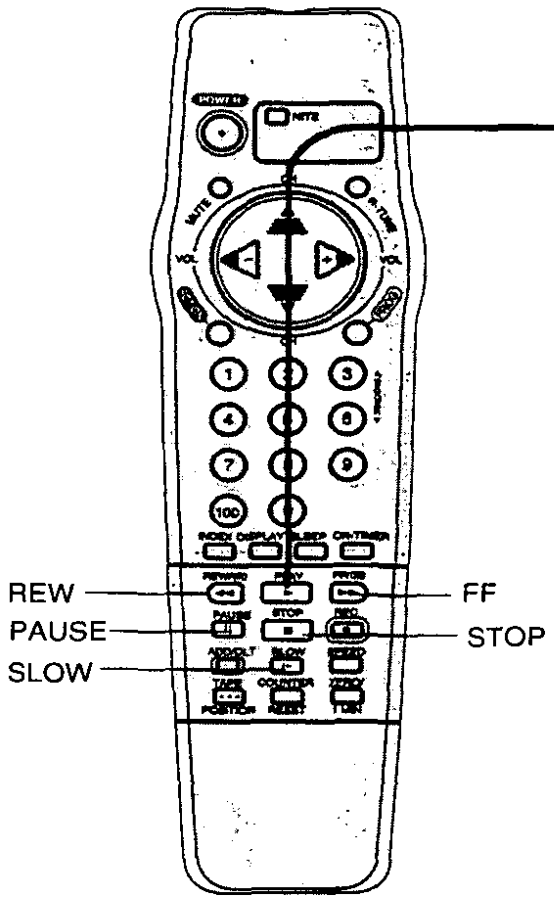
■ Phones

Connect an earphone (not supplied) or headphones (not supplied) to the Phones Jack.

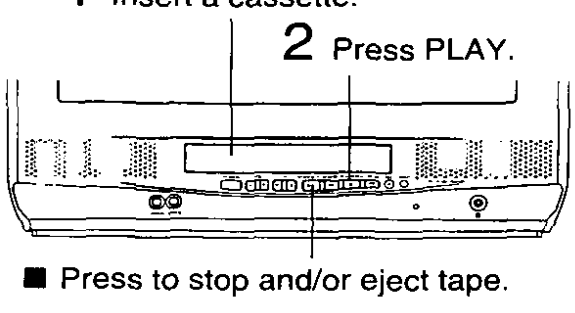
Playback a Tape

Model AG-520D unit is shown here.





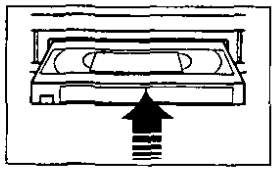
You can operate on the Combination VCR (Model AG-520D unit is shown here.)



Check list before you begin.

- ☐ All connections are made (see page 5).
- ☐ Your Combination VCR is plugged in.

1 Insert a cassette.

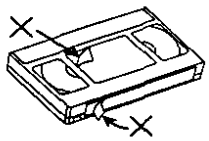


- Combination VCR power comes on automatically.
- Repeat Play begins automatically if cassette has no record tab. (See bottom of this page.)

Note

To prevent tape jam

Inspect your cassette tapes and remove any loose or peeling labels.



2 Press PLAY.

- The Combination VCR will automatically go into Repeat Play mode.

■ **To Find a Particular Scene**
Forward Search → Press FF
Reverse Search → Press REW

■ **For view Slow Motion →**
Press SLOW (To release, press SLOW)

■ **For view Still (Freeze) picture →**
Press PAUSE (To release, press PAUSE)

■ **For view Frame by Frame picture →**
Press SLOW in the Still mode
(To release, press PAUSE)

Note

After Combination VCR is in Still or Slow mode for 3 minutes, it will switch to Stop mode automatically to protect the tape and the video head.

■ **To stop →** Press STOP

■ **To rewind tape →** Press REW in stop mode

■ **To eject tape →** Press STOP/EJECT on the Combination VCR

Repeat Play

Repeat Play mode begins automatically when PLAY is pressed. You can set to see your recording over and over.

When PLAY on the remote or Combination VCR is pressed, the Combination VCR will automatically go into Repeat Play mode.

- "REPEAT ON" is displayed.
- When a cassette without a record tab is inserted, Repeat Play begins automatically.

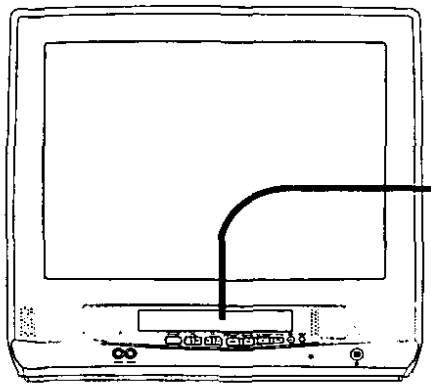
To cancel: Press PLAY in Repeat Play mode.

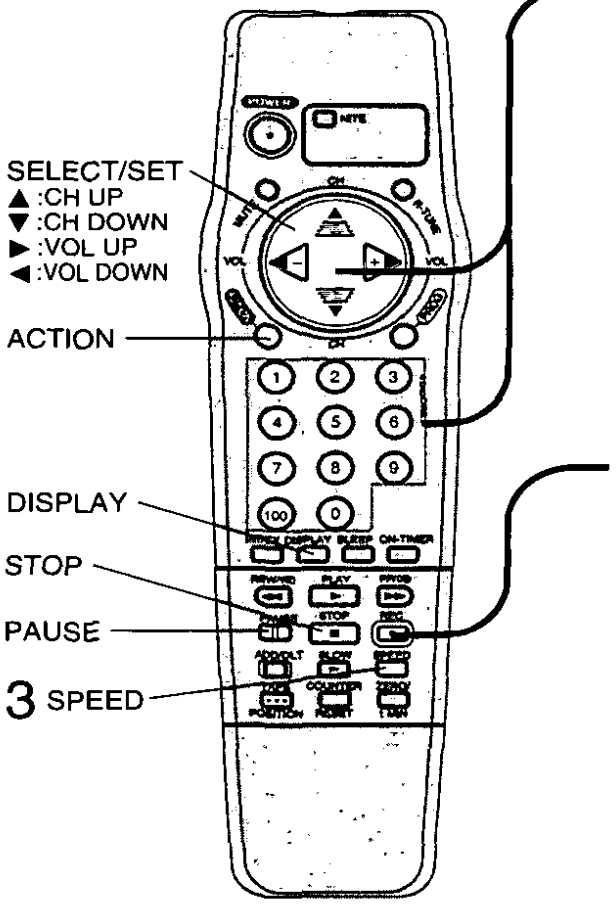
Notes

- Playback repeats when tape end is reached or unrecorded portion over 3 seconds is detected.
- All function buttons (REW, FF,etc.) are operational during Repeat Play.

Record On a Tape

Model AG-520D unit is shown here.

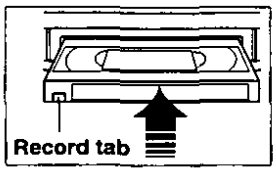




Check list before you begin.

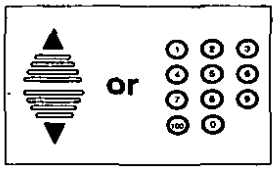
- ☐ All connections are made (see page 5).
- ☐ Your Combination VCR is plugged in.
- ☐ Cassette with record tab in place.

1 Insert a cassette.



- Combination VCR power comes on automatically.

2 Select Channel.



Press CH ▲▼, or NUMBERED keys.

- To select "LINE," see bottom of this page.

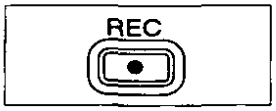
3 Select Recording speed (see page 4).

Press SPEED.

SP = Standard Play
LP = Long Play
SLP = Super Long Play

- Selected speed is displayed.

4 Start Recording.



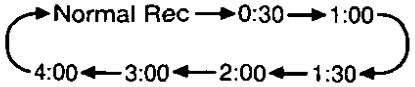
Press REC.

- To edit out unwanted portions, press PAUSE to pause and resume recording.
- You can not view another channel during recording.

■ **To stop** → Press STOP

■ **One Touch Recording (OTR)**

Press REC repeatedly to set the recording length (30 min - 4 hours).

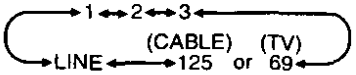


- Combination VCR stops recording at a preset time.
- PROG TIMER indicator lights on the Combination VCR.

Selecting Input Mode (TUNER:ON Only)

Method 1: Press INPUT.
Channel Number <---> LINE

Method 2: Press CH ▲▼. The display will change as follows.

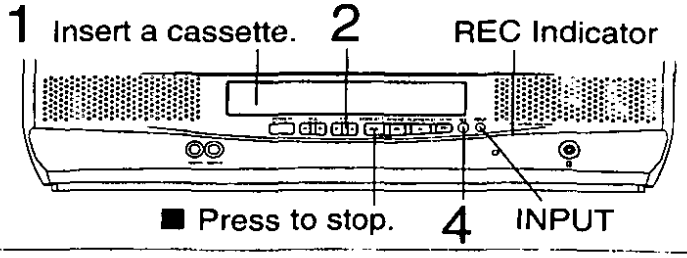


Method 3:
a Press ACTION for MAIN MENU.
b Press ▲▼◀▶ to select "TV", then press ACTION for SET UP TV screen.
c Press ▲▼ to select "INPUT SELECT," and then press ▶ to select "TUNER" or "LINE."
d Press ACTION twice to exit this mode.

Notes

- After Combination VCR has been in Rec Pause mode for 5 minutes, it will stop automatically to protect the tape and video head.
- The remaining recording time of an OTR can be displayed by pressing DISPLAY.

You can operate on the Combination VCR
(Model AG-520D unit is shown here.)



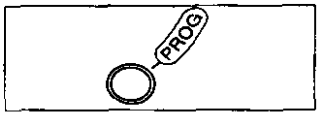
Timer Playback

You can set the Combination VCR up to turn itself on, playback for a preset time, and turn itself back off. Up to 4 programs can be set to playback on a daily or weekly basis.

Check list before you begin.

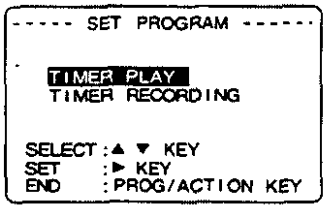
- ☐ All connections are made (see page 5).
- ☐ Your Combination VCR is plugged in.
- ☐ The clock is set to correct time.

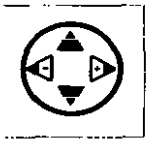
1 Display SET PROGRAM.



Press PROG.

2 Select TIMER PLAY.

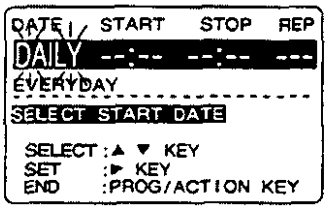


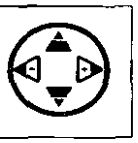


1) Press ▲▼ to select.
2) Press ▶ to display.

- If a program is already in memory, press ▲▼, and ▶ to select an unused program number.

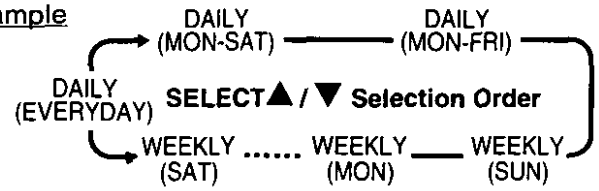
3 Set the playing DATE.





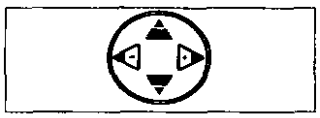
1) Press ▲▼ to select.
2) Press ▶ to set.

Example



- DAILY(EVERYDAY) = Same time everyday
- DAILY(MON ~ FRI) = Same time MON ~ FRI
- DAILY(MON ~ SAT) = Same time MON ~ SAT
- WEEKLY = Same time once a week

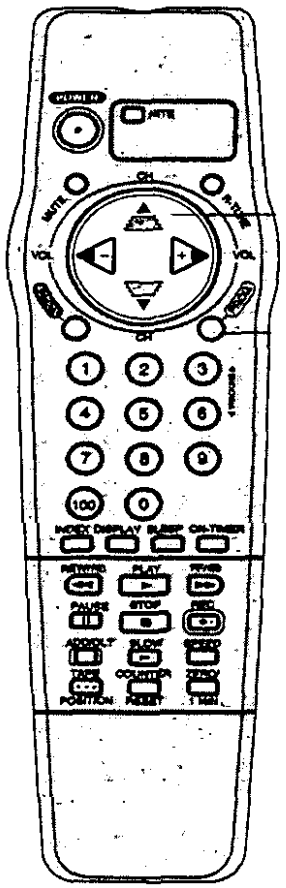
4 Set the remaining items (see below).



1) Press ▲▼ to select.
2) Press ▶ or ◀ to set.

Remaining items:
- START time
- STOP time
- REPEAT PLAY: "YES" or "NO"

Continued on the next page.

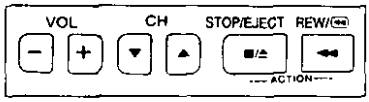


Notes

- If "PLEASE PREPARE FOR TIMER PLAY" appears and/or the PROG TIMER indicator flashes, check that a cassette is loaded and the Combination VCR is in Stop mode.
- If the start times of two programs overlap, the lower numbered program will have priority.
- If the start time for a Timer Playback comes up during a normal recording or One Touch Recording (page 11), Timer Playback will not be performed.
- If there is a power interruption of more than one minute, the playback may not be performed or continue.
- If "INCOMPLETE" appears after all items have been set, check all entries and make necessary corrections.

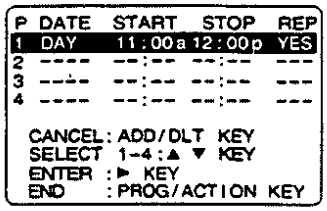
Timer Playback Using Combination VCR Buttons

You can set the Timer Playback using ACTION control on the Combination VCR. (See page 7.)

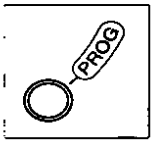


1 Press STOP/EJECT and REW together without a tape to display MAIN MENU.
2 Press ▲▼ +– to select "VCR" and STOP/EJECT and REW together to display SET UP VCR screen.
3 Press ▲▼ to select "SET PROGRAM" and + to display the SET PROGRAM screen.
4 Repeat steps 2~6.

5



End the program.

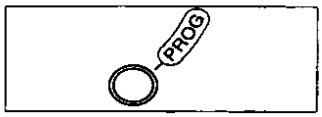


Press PROG (or ACTION).

To Enter More Programs

Press ▲▼ and ▶ to select and set a blank program number, and then repeat steps 3 and 4.

6



Exit this mode.

Press PROG twice (or ACTION).

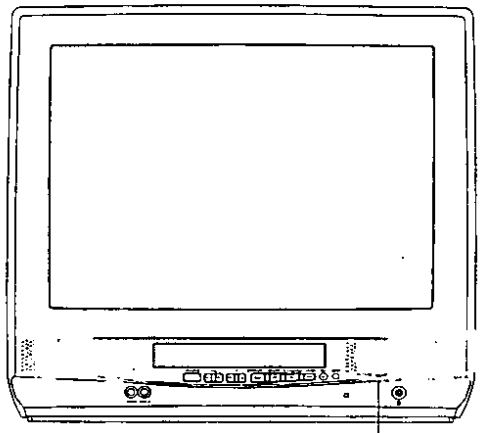
- PROG TIMER indicator lights on the Combination VCR.

Cancel a Timer Playback: (Playback is in progress)

Hold down STOP for a few seconds to cancel the Timer Playback.

- Any future daily or weekly playbacks will be performed as programmed.

Model AG-520D unit is shown here.

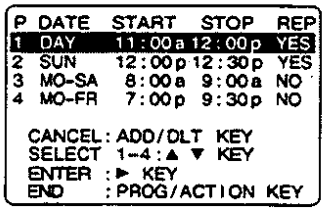


PROG TIMER indicator

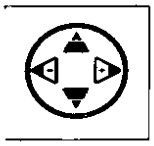
Review, Replace or Clear Program Contents: (Playback is not in progress)

a Repeat steps 1 and 2 on page 12.

b


P DATE START STOP REP
1 DAY 11:00a 12:00p YES
2 SUN 12:00p 12:30p YES
3 MO-SA 8:00a 9:00a NO
4 MO-FR 7:00p 9:30p NO
CANCEL: ADD/DLT KEY
SELECT 1-4: ▲ ▼ KEY
ENTER : ▶ KEY
END : PROG/ACTION KEY

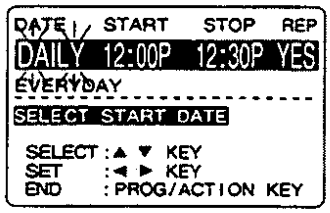
Select the desired program.

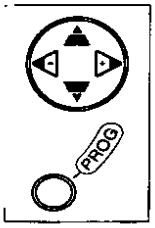


Press ▲▼ to select.

c

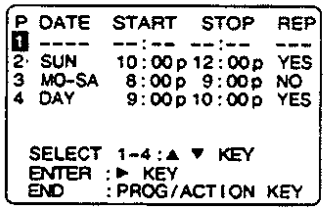
To Replace program...

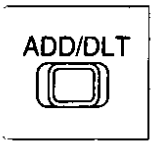




1) Press ▶ to display.
2) Press ▲▼◀▶ to set new program contents.
3) Press PROG (or ACTION).

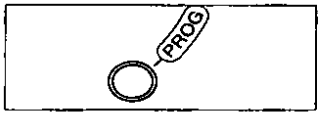
To Clear program...


P DATE START STOP REP
1 ---- --:-- --:-- ---
2 SUN 10:00p 12:00p YES
3 MO-SA 8:00p 9:00p NO
4 DAY 9:00p 10:00p YES
SELECT 1-4: ▲ ▼ KEY
ENTER : ▶ KEY
END : PROG/ACTION KEY



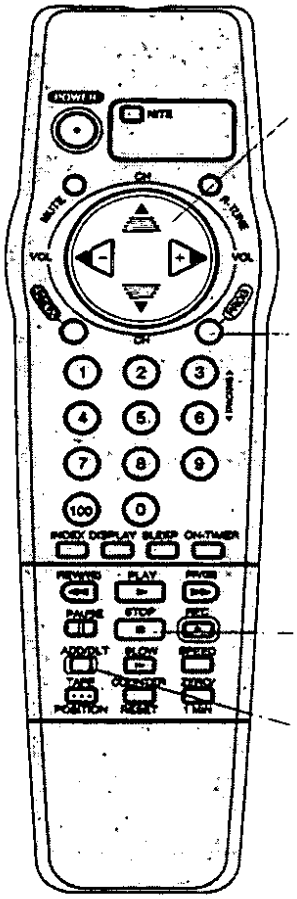
Press ADD/DLT.

d



Exit this mode.

Press PROG twice (or ACTION).

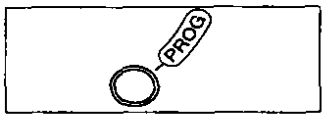


Timer Recording

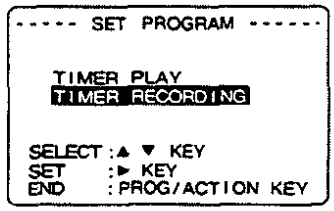
You can set up to 4 programs to be recorded while you are away.

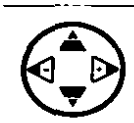
1 Display SET PROGRAM.

Press PROG.



2 Select TIMER RECORDING.

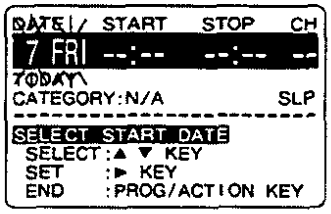




1) Press ▲▼ to select.
2) Press ▶ to display.

- If a program is already in memory, press ▲▼, and ▶ to select an unused program number.

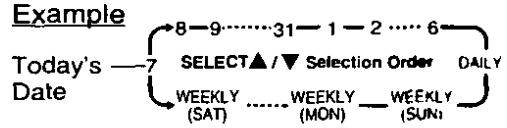
3 Set the recording DATE.



1) Press ▲▼ to select.
2) Press ▶ or to set.

- 1~31 = One time
- DAILY = MON~FRI
- WEEKLY SUN~SAT = Same time once a week

Example

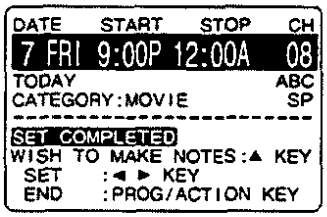


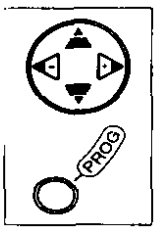
Repeat step 3 to set:

- start time, stop time
- Channel (or LINE for outside source)
- Category [N/A (not applicable), SPORTS, MOVIE, COMEDY, MUSIC, DRAMA]
- Speed (SP, LP, SLP)

4 Make the notes.

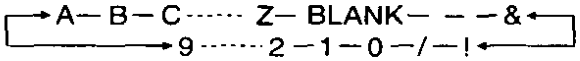
- If not wanted, go to step 5.





1) Press ▲ to begin.
2) Press ▲▼ to select.
3) Press ▶ or ◀ to set.
4) Press PROG (or ACTION) to end.

- Characters will change in the following order.



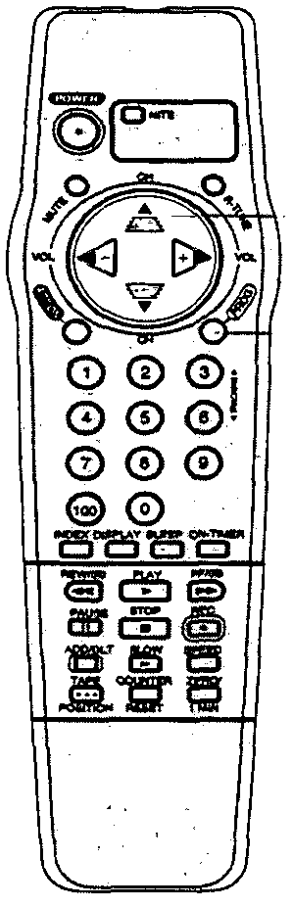
Continued on the next page.

Notes

- If "PLEASE PREPARE FOR TIMER REC" appears and/or the PROGRAM TIMER indicator flashes, check that a cassette with record tab is loaded and the Combination VCR is in Stop mode.
- If the start times of two programs overlap, the lower numbered program will have priority.
- If the start time for a Timer Recording comes up during a normal Recording, One Touch Recording (page 11) or Timer Playback, the Timer Recording will not be performed.
- If there is a power interruption of more than one minute, the recording may not be performed or continue.
- If "INCOMPLETE" appears after all items have been set, check all entries and make necessary corrections.

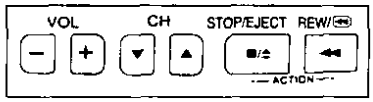
Check list before you begin.

- ☐ All connections are made (see page 5).
- ☐ Your Combination VCR is plugged in.
- ☐ The clock is set to correct time.
- ☐ The tape is long enough.
- ☐ The record tab is in place.



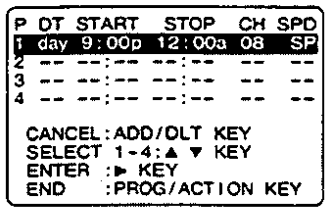
Timer Recording Using Combination VCR Buttons

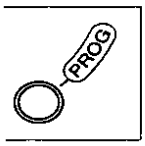
You can set the Timer Recording using ACTION control on the Combination VCR. (See page 7.)



1 Press STOP/EJECT and REW together without a tape to display MAIN MENU.
2 Press ▲▼ +– to select "VCR" and STOP/EJECT and REW together to display SET UP VCR screen.
3 Press ▲▼ to select "SET PROGRAM" and + to display the SET PROGRAM screen.
4 Repeat steps 2~6.

5 End the program.

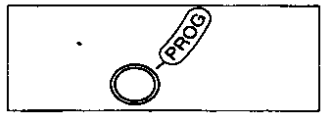




Press PROG (or ACTION).

To Enter More Programs
Press ▲▼ and ▶ to select and set a blank program number, and then repeat steps 3 and 4.

6 Exit this mode.



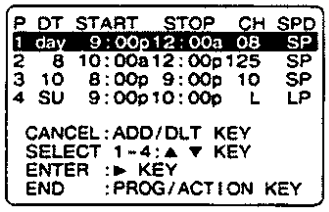
Press PROG twice (or ACTION).

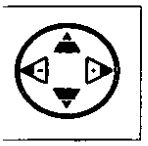
- If you're using a cable box, make sure that it is tuned to the desired channel and the power is left on for timer recording.
- PROG TIMER indicator lights on the Combination VCR.

Review, Replace or Clear Program Contents: (Recording is not in progress)

a **Repeat steps 1 and 2 on page 14.**

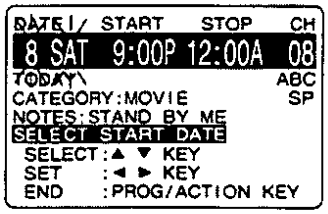
b Select the desired program.

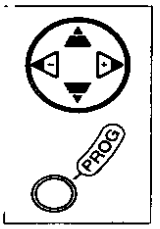

P DT START STOP CH SPD
1 day 9:00p 12:00a 08 SP
2 8 10:00a 12:00p 125 SP
3 10 8:00p 9:00p 10 SP
4 SU 9:00p 10:00p L LP
CANCEL:ADD/DLT KEY
SELECT 1-4:▲ ▼ KEY
ENTER :▶ KEY
END :PROG/ACTION KEY



Press ▲▼ to select.

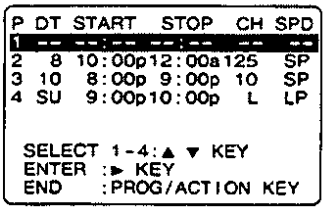
c To Replace program...

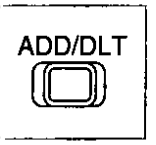




1) Press ▶ to display.
2) Press ▲▼◀▶ to set new program contents.
3) Press PROG (or ACTION).

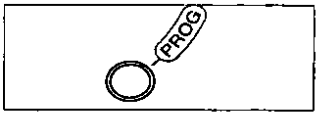
To Clear program...


P DT START STOP CH SPD
1 -- --:-- --:-- -- --
2 8 10:00p 12:00a 125 SP
3 10 8:00p 9:00p 10 SP
4 SU 9:00p 10:00p L LP
SELECT 1-4:▲ ▼ KEY
ENTER :▶ KEY
END :PROG/ACTION KEY



Press ADD/DLT.

d Exit this mode.



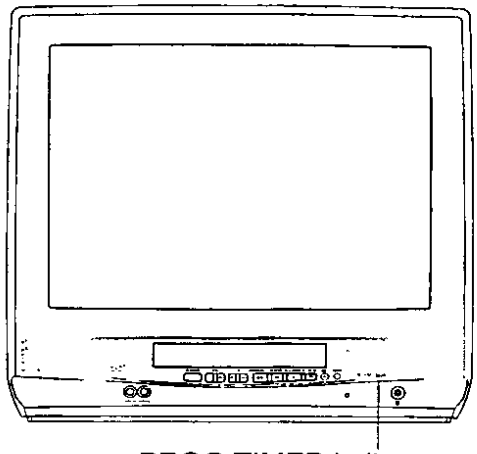
Press PROG twice (or ACTION).

Cancel a Timer Recording: (Recording is in progress)

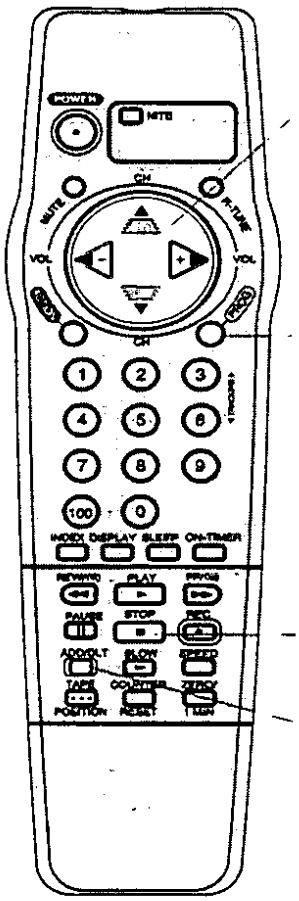
Hold down STOP for a few seconds to cancel the Timer Recording.

- Any future daily or weekly recordings will be performed as programmed.

Model AG-520D unit is shown here.



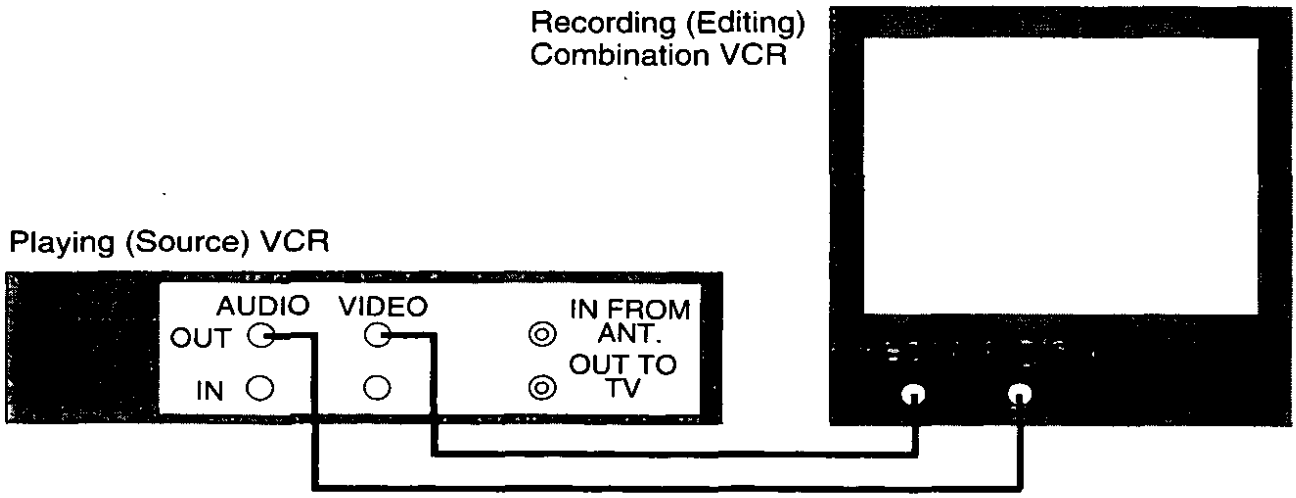
PROG TIMER indicator



b SELECT/ SET
c ▲:CH UP
▼:CH DOWN
▶:VOL UP
◀:VOL DOWN
c PROG
d
STOP
c ADD/DLT

Copying Your Tapes (Dubbing)

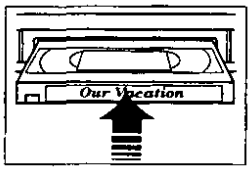
Connections you'll need to make.



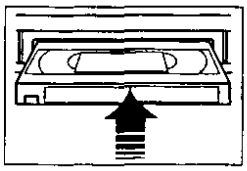
Playback (Source) VCR

Recording (Editing) Combination VCR

1



Insert pre-recorded tape.



Insert blank tape with record tab.

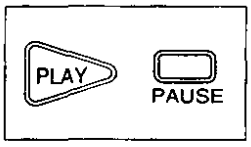
- Dubbing tapes protected with Copy Guard will have poor quality results.

2

Select "LINE" mode.

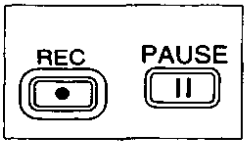
See "Selecting Input Mode" section on page 11.

3



Put in Standby mode.

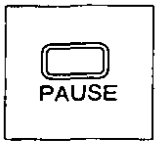
Press PLAY then PAUSE at starting point.



Put in Standby mode.

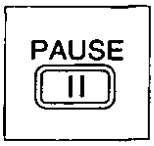
Press REC, then PAUSE immediately.

4



Start dubbing.

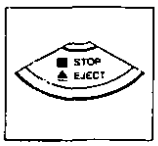
Press PAUSE.



Start dubbing.

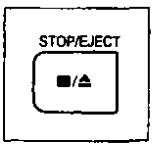
Press PAUSE.

5



Stop dubbing.

Press STOP/EJECT.



Stop dubbing.

Press STOP/EJECT.

Caution: Unauthorized exchanging and/or copying of copyrighted recordings may be copyright infringement.

TV Timer Features

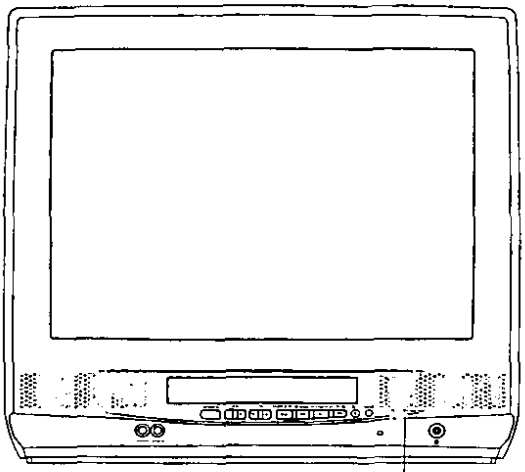
ON-TIMER with Alarm

Combination VCR can be set to automatically power on in one of 2 modes (TV or Playback). Even if you set the On Timer, it will not be performed during Timer Play or Play Lock mode. You can also combine the On-Timer with a one minute alarm that gradually increases in volume.

Check list before you begin.

☐ The clock is set to correct time.

Model AG-520D unit is shown here.



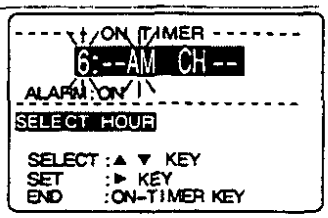
ON TIMER Indicator

1 ON-TIMER

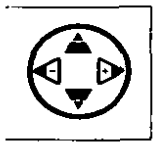
Display ON TIMER screen.

Press ON-TIMER.

2



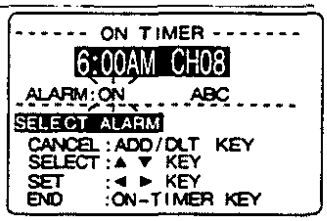
Set the ON-TIMER DATE.



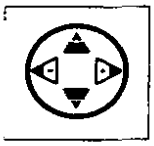
1) Press ▲▼ to select.
2) Press ▶ to set.

- You can choose TV or PLAY for the On Timer mode only when TUNER:ON is selected (page 6.)
- Make sure a tape is inserted if Playback mode is selected.

3



Set Alarm.



Press ▲▼ to select "ON" or "OFF."

When "ON" is selected,
an alarm will gradually increase in volume for one minute or until cancelled by pressing any button (including VOL ◀▶).

To Make Corrections,
use ▲▼ and ◀▶ to move back and correct as necessary.

4 ON-TIMER

Set ON TIMER.

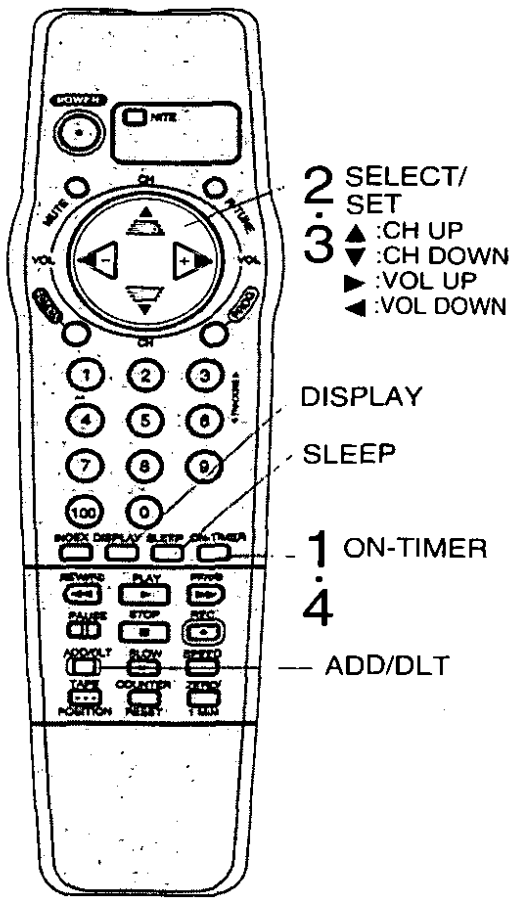
Press ON-TIMER.

- ON TIMER indicator lights on the Combination VCR.

To cancel ON-TIMER set,
press ON-TIMER to redisplay the screen in step 3. Then, press ADD/DLT to clear the time ("6" is flashing). Now, press ON-TIMER to end. "ON TIMER END" appears on-screen for a few seconds.

Note

If no button on the remote or Combination VCR (including a button used to turn off the alarm) is pressed within 60 minutes after Combination VCR turns itself on, it will turn itself back off.



SLEEP TIMER

Combination VCR can be set for auto power off.

SLEEP TIMER 30 → SLEEP TIMER 60 → SLEEP TIMER 90 → SLEEP TIMER 00 → (back to 30)

Set SLEEP TIMER.

SLEEP

Press SLEEP repeatedly.

- Pressing DISPLAY with sleep timer set displays remaining time.
- Sleep Timer will not be performed during Timer Play or Play Lock mode.

To Cancel, press SLEEP repeatedly until "SLEEP TIMER 00" appears.

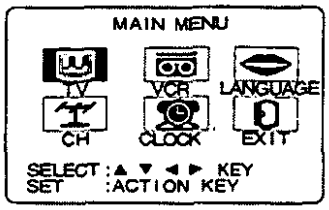
Closed Caption System

Closed Caption Mode Feature

1

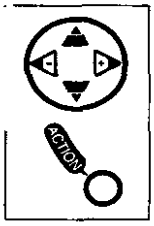
Display MAIN MENU.
Press ACTION.

2



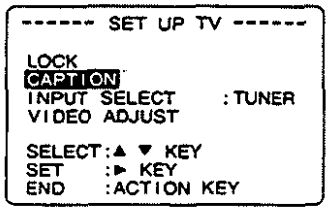
<The TUNER:ON main menu is shown>

Display SET UP TV screen.

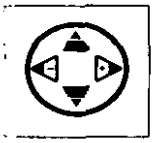


1) Press ▲▼◀▶ to select "TV."
2) Press ACTION to display.

3

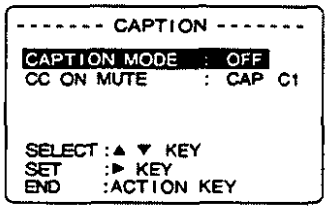


Display CAPTION screen.



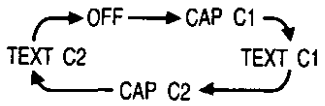
1) Press ▲▼ to select.
2) Press ▶ to display.

4



Select CAPTION MODE.

1) Press ▲▼ to select.
2) Press ▶ repeatedly to select caption mode.



5

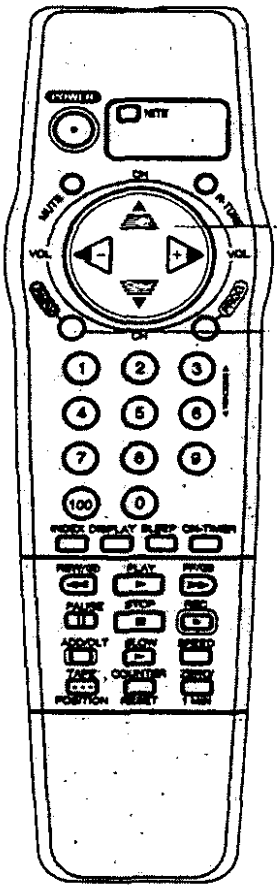
Return to the normal screen.
Press ACTION three times.

Recording and Playing Back a Closed Caption/ Text Program

Record:
Record normally. Closed Caption/Text signal, if present, is recorded automatically.

Playback:
Start playback. Do above steps to select desired caption mode.

Closed Caption is ...
This multi-use system not only allows the hearing impaired to enjoy selected programs, but also makes useful information from TV stations available to everyone.



Closed Caption Modes From which to Choose

Caption Mode: CAP C1 or C2
A narration of selected TV programs is displayed.
Check TV program listings for C.C. (Closed Caption) broadcasts.

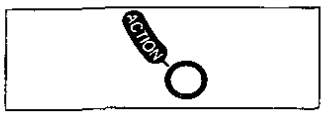
Caption Mode: TEXT C1 or C2
The lower half of the screen will be blocked out. When the TV station broadcasts information, such as program listings, it will appear in this space.

Caption Mode: OFF
Closed Caption/Text narration will not be displayed.

NOTE:
The closed caption or text signal may be broadcast over C1, C2, or both. Also, text contents can vary so you may wish to try different settings.

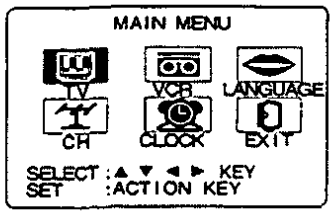
Caption On Mute Feature

Closed Caption narration, if available, is displayed when MUTE button is pressed for silence.



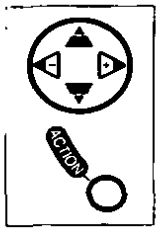
1 Display MAIN MENU.

Press ACTION.

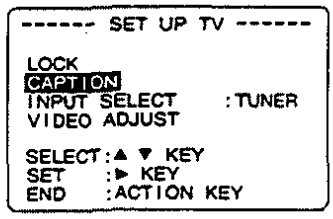


<The TUNER:ON main menu is shown>

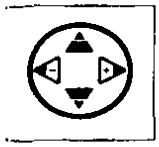
2 Display SET UP TV screen.



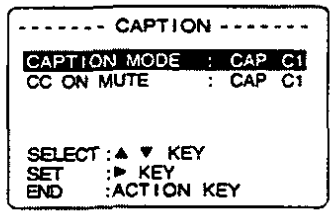
1) Press ▲▼◀▶ to select "TV."
2) Press ACTION to display.



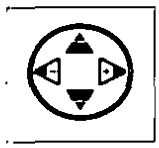
3 Display CAPTION screen.



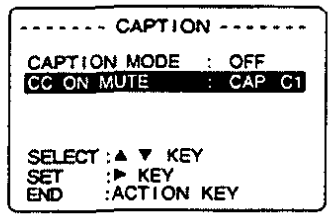
1) Press ▲▼ to select.
2) Press ▶ to display.



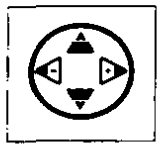
4 Set CAPTION MODE OFF.



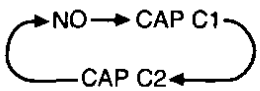
1) Press ▲▼ to select.
2) Press ▶ repeatedly to select "OFF."



5 Select CC ON MUTE.



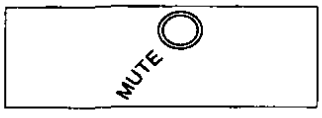
1) Press ▲▼ to select.
2) Press ▶ repeatedly to select desired caption mode.



- Each press of ▶ will change the display as shown at left.
- The caption may be broadcast over CAP C1 or C2.

6 Return to the normal screen.

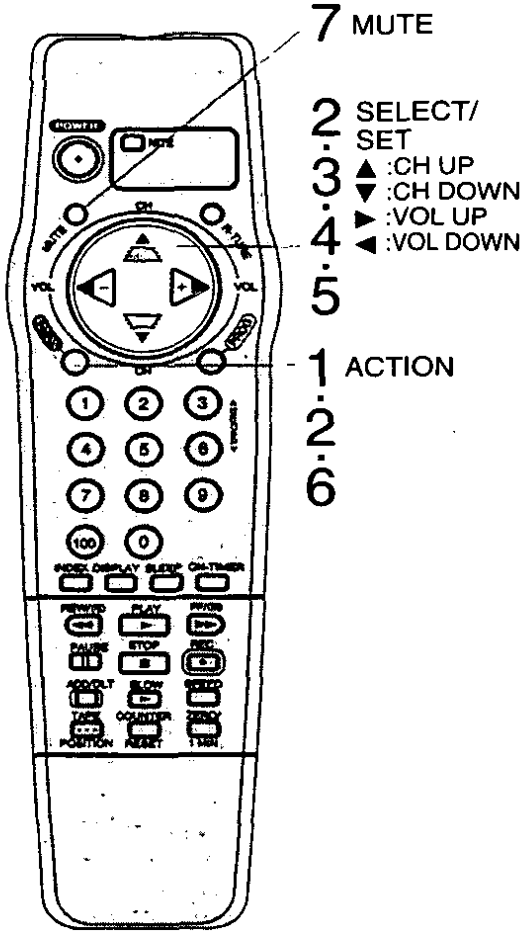
Press ACTION three times.



7 Mute sound, display closed captioning.

Press MUTE to mute the sound.

- To cancel, press MUTE again.



Tape Operation

Direct Access (For Normal and/or Timer recordings)

Go directly to the desired recording.

1 INDEX

Display INDEX screen.

Press INDEX in Playback or Stop mode.

- If there are no Timer Recordings on the Program Index List, go to step 3.

2

INDEX
INDEX SEARCH
PROGRAM INDEX SEARCH
SELECT : ▲ ▼ KEY
SET : ▶ KEY
END : INDEX KEY

Display INDEX screen.

1) Press ▲▼ to select "INDEX SEARCH."
2) Press ▶ to display.

- This screen appears only if there are Timer Recordings.

3

INDEX

Select the recording number.

Press NUMBERED keys.

- To calculate number, see below.

4

INDEX 04
INDEX SEARCH 04

Start search.

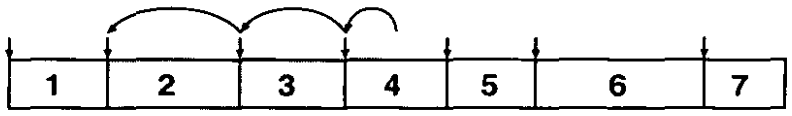
FF/▶▶ or REW/◀◀

Press FF or REW.

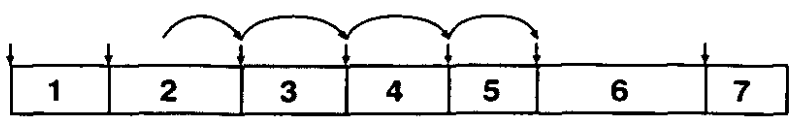
- When search is finished, playback begins.

To calculate the Index Number

Example 1:
If you are watching recording 4 and you want to watch recording 2, enter 3 in step "3" and press REW.



Example 2:
If you are watching recording 2 and you want to watch recording 6, enter 4 in step "3" and press FF.

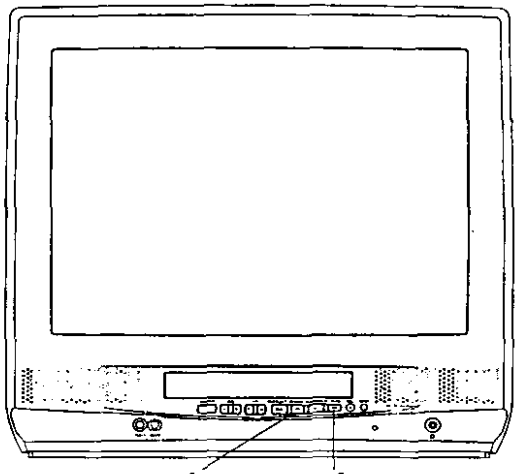


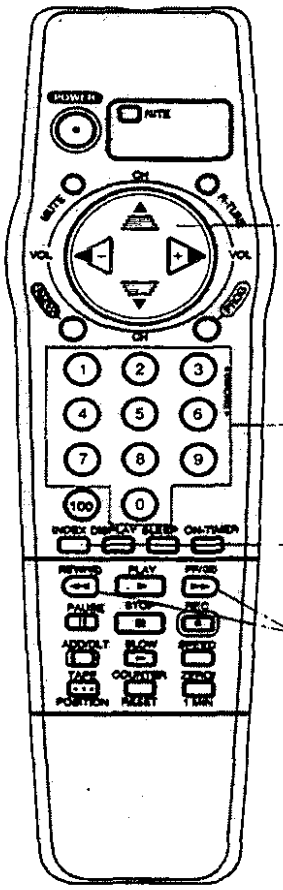
NOTE: ↓ indicates start points of each recording.

VHS Index Search System is ...

Each time recording is made, an invisible index mark is placed on the tape. When timer recordings are made, program index and information are also included. These index marks can be used to access or scan recordings.

Model AG-520D unit is shown here.





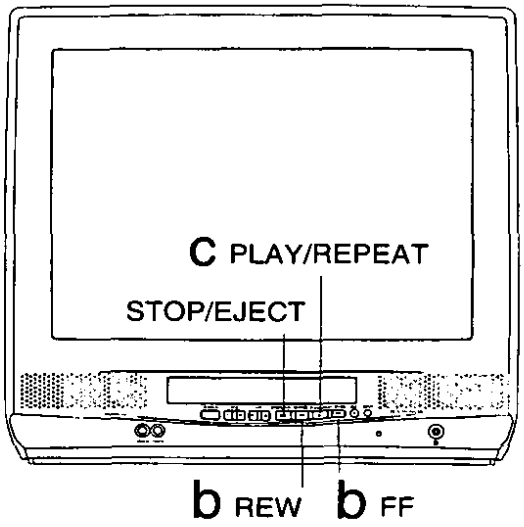
Notes

- Make each entry within 10 seconds, or the Index Search mode will be canceled.
- If these VHS Index Search Systems are started very close to an index mark, that index mark may not be counted in the search.

Program Index Search (For Timer recordings only)

Choose a timer recorded program from a Program Index List.
When the tape is ejected or normal recording is started, all program index data is deleted.

Model AG-520D unit is shown here.



1 Display INDEX screen.

INDEX

Press INDEX in Playback or Stop mode.

2 Display PROGRAM INDEX screen.

INDEX
INDEX SEARCH
PROGRAM INDEX SEARCH
SELECT:▲ ▼ KEY
SET :▶ KEY
END : INDEX KEY

1) Press ▲▼ to select "PROGRAM INDEX SEARCH."
2) Press ▶ to display.

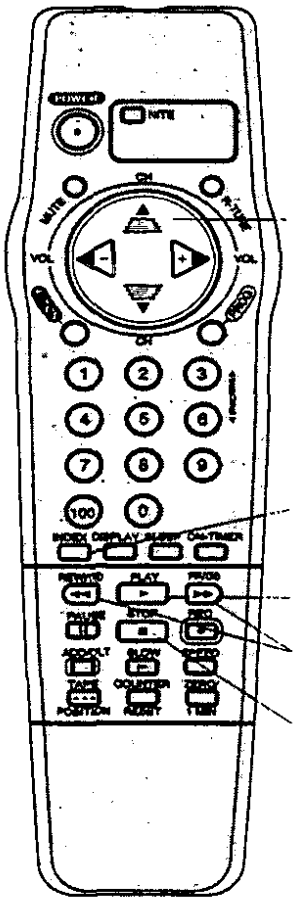
3 Select the desired recorded program.

PROGRAM INDEX

DATE	START	CATEGORY	CH
12/28	10:00A	SPORTS	ABCD
1/ 4	12:30P	MOVIE	NBC
1/ 4	8:00P	COMEDY	CBC
1/ 7	3:00P	MUSIC	NBC

SELECT:▲ ▼ KEY
SEARCH:▶ KEY
END : INDEX KEY

1) Press ▲▼ to select.
2) Press to start the forward or rewind search.
- When search is finished, playback begins.



Index Scan (For Normal and/or Timer recordings)

In Play mode, the first 10 seconds of each recording can be scanned (forward or reverse).

a Repeat steps 1 and 2 on previous page to display INDEX screen.

b Start the scan.

INDEX

FF/▶▶
or
REW/◀◀

Press FF or REW.

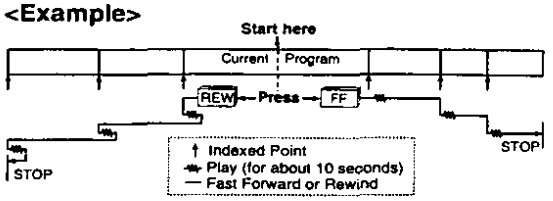
c Cancel scan, start playback.

AUTO INDEX SEARCH

PLAY ▶

Press PLAY.
- To stop, press STOP.

<Example>



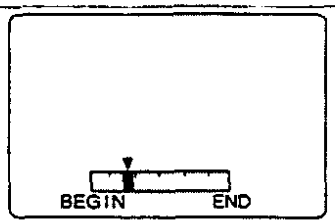
Tape Operation (continued)

Tape Position Display

To find out the present tape position. **Tape position cannot be found for C-Cassette type and tape of less than 60 minutes.**

1 TAPE POSITION

Detect Tape Position.
Press TAPE POSITION.



- "DETECTING TAPE POSITION" is only displayed when a cassette is first inserted.
- It takes several seconds for correct tape position to appear.
- Indication is standard.

2 TAPE POSITION

Return to normal screen.
Press TAPE POSITION.

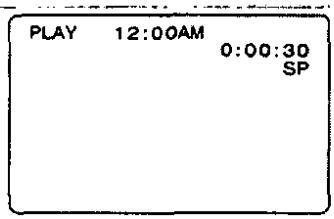
Zero Search

To quickly return to a specific tape counter location.

a DISPLAY

Display the Counter.
Press DISPLAY during playback.

b



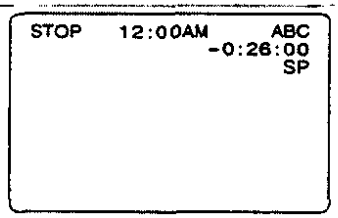
Reset to "0:00:00."

COUNTER RESET

Press COUNTER RESET at the desired position.

c **Continue playback, rewind, or fast forward.**

d



Return to "0:00:00."

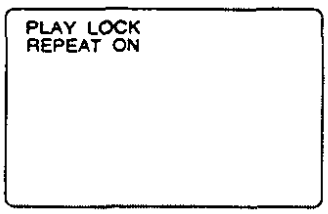
ZERO/ 1 MIN

Press ZERO/1 MIN in Stop mode.

- The Combination VCR will go into FF or REW mode and stop at the last point the Counter was set to 0:00:00.

Play Lock mode

The Combination VCR may be locked in Repeat Play mode so that all other function keys are inoperative. (See page 10.)

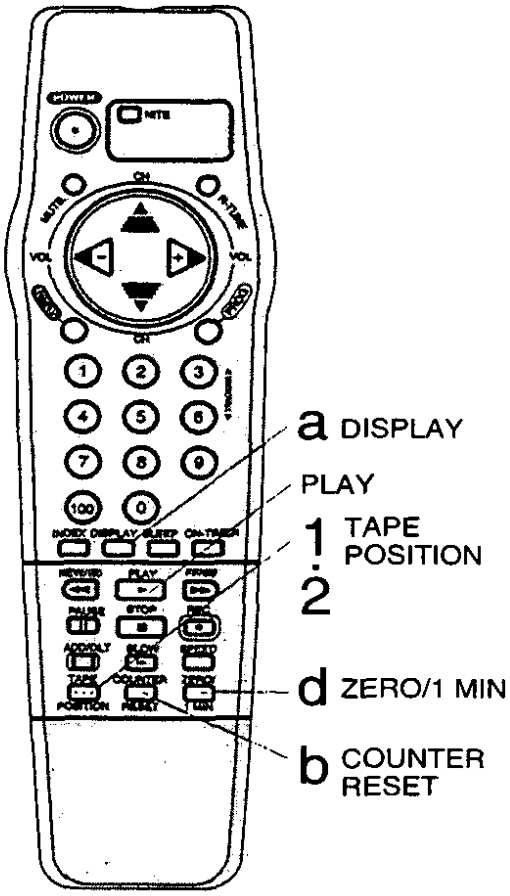


PLAY

To turn "ON."
In Repeat Play mode, hold down PLAY on the remote or Combination VCR for 7 seconds.

To turn "OFF."
Repeat above operation in Play Lock mode.

When the Play Lock mode is selected,
- the Auto Repeat function is activated automatically.
- the On Timer and Sleep Timer become nonfunctional.



One Minute Skip

Combination VCR fast forwards over 60 seconds of recorded tape.

ZERO/ 1 MIN

Skip over 1 minute.
Press ZERO/1 MIN in Play mode.

Auto Operation Functions

- **Auto Playback with Repeat Function**
  Insert a tape in Power off mode → Power turns on automatically
  - Repeat Play begins automatically if a tape has no record tab.
- **Auto Rewind (Repeat Play is "OFF")**
  A tape reaches its end → Rewind begins → Stop automatically
- **Playback Auto Eject (Repeat Play is "OFF")**
  A tape has no record tab reaches its end → Rewind begins → Ejects automatically
- **Memory Rewind off**
  Press POWER in REW mode → Rewind is completed → Power turns off automatically

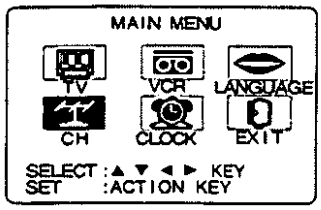
Special VCR Features

Weak Signal Display ON/OFF

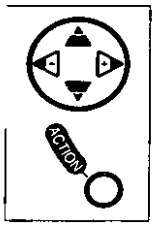
When "ON" is selected, picture is displayed even when broadcast signal is weak or nonexistent.

1

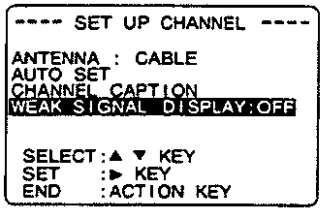
Display MAIN MENU.
Press ACTION.

2 

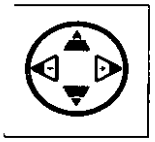
Display SET UP CH screen.



1) Press ▲▼◄► to select "CH."
2) Press ACTION to display.

3 

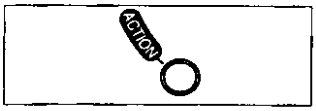
Select WEAK SIGNAL DISPLAY.



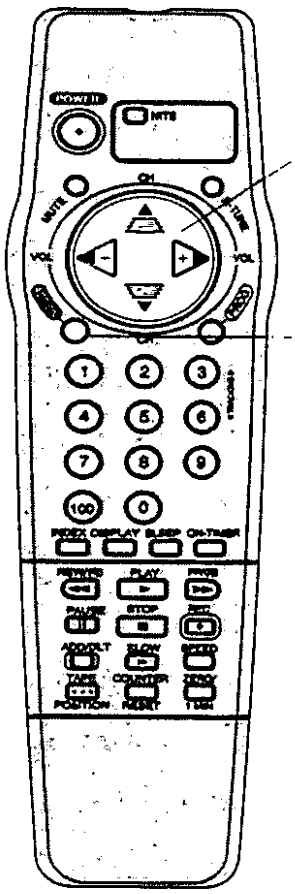
1) Press ▲▼ to select.
2) Press ► to set "ON" or "OFF."

Notes

- "ON" = Picture is displayed regardless of signal condition, and may not always be clearly visible.
  "OFF" = Screen turns solid blue when signal is absent or weak.
- If Combination VCR is connected to equipment which has blue back feature, selecting "ON" will have no affect on the other equipment.

4 

Return to normal screen.
Press ACTION twice.



Special VCR Features (continued)

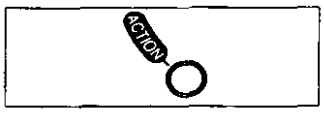
Preset Caption

Channel Caption is ...
Station names, e.q. ABC, TNT, etc. can be set so they will appear when a channel is selected. Choose 24 preset names (Preset Caption), or make up to 10 names of your own (Manual Caption).

Check list before you begin.

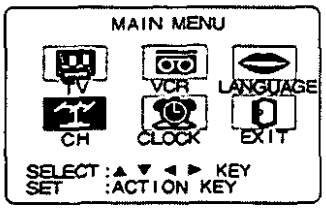
☐ You need a list of stations and the channel numbers you receive them on.

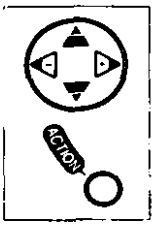
1 Display MAIN MENU.



Press ACTION.

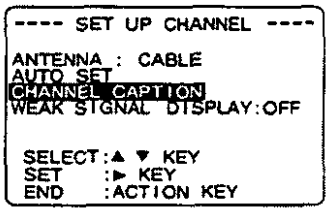
2 Display SET UP CH screen.





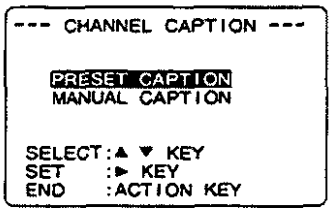
1) Press ▲▼◀▶ to select "CH."
2) Press ACTION to display.

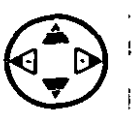
3 Select CHANNEL CAPTION.



1) Press ▲▼ to select.
2) Press ▶ to display.

4 Select PRESET CAPTION.

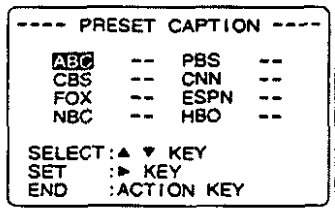


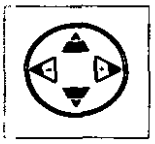


1) Press ▲▼ to select.
2) Press ▶ to display.

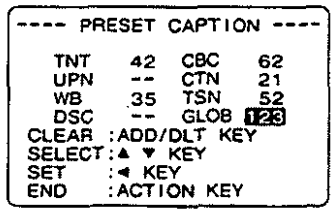
- To create your own captions, go to "Manual Caption" on page 25.

5 Go with preset captions.





1) Press ▲▼ to select a station.
2) Press ▶ to move cursor to the right.
3) Press ▲▼ to select channel number.
4) Press ◀ to set.

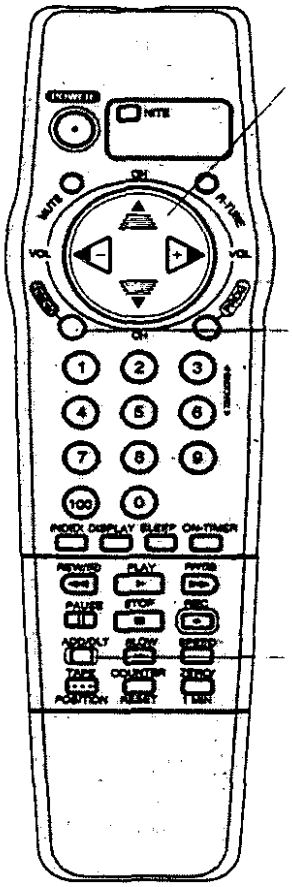


- Repeat step 5 until the Caption List is complete.

To Make Corrections
Press ▲▼, then ▶ to select channel number. Press ▲▼ to change, or ADD/DLT to delete.

6 End setup.

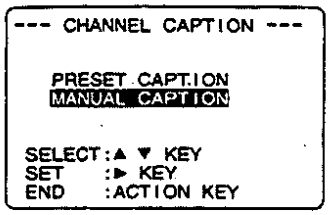
Press ACTION four times.



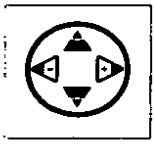
Manual Caption

1 **Do "Preset Caption" steps 1~3 (page 24).**

2

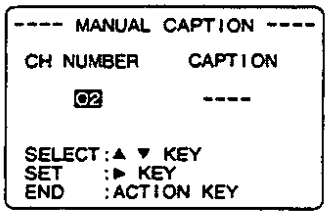


Select MANUAL CAPTION.

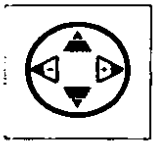


1) Press ▲▼ to select.
2) Press ▶ to display.

3



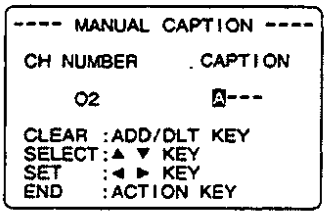
Select Channel number.



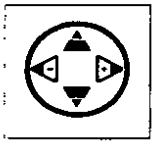
1) Press ▲▼ to select CH NUMBER.
2) Press ▶ to move cursor to the right.

- Channels already set and channels deleted from Channel Memory are not displayed.
- You can set a total of ten channel captions with up to four characters each.

4



Enter your caption.



1) Press ▲▼ to select.
2) Press ▶ to enter.

- Characters change in the following order.

A— B— C····· Z— BLANK— — —& ←
→ 9····· 2 —1 —0 —/ —! ←

- Press ◀ repeatedly to move the cursor to "CH NUMBER." Repeat steps 3 and 4 as desired.

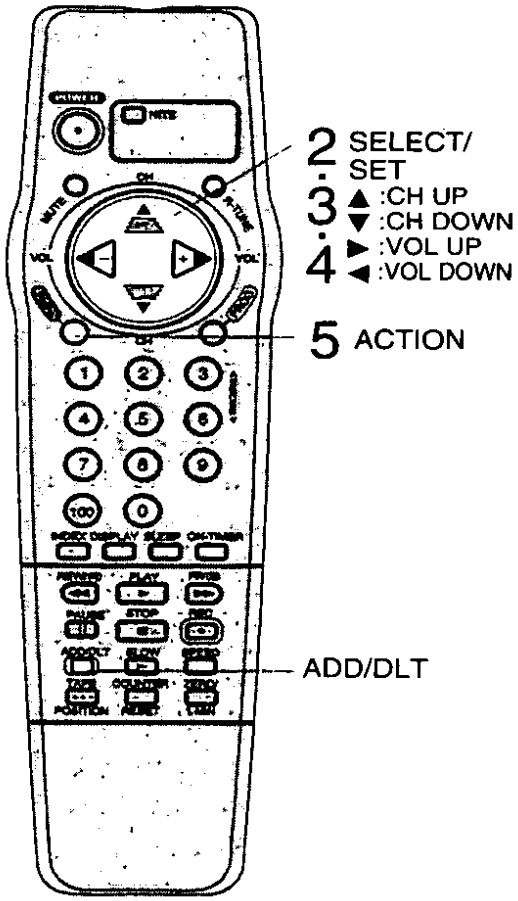
To Make Corrections

Press ▲▼, then ▶ to select the channel number. Press ▲▼ to change, or ADD/DLT to delete.

5

End setup.

Press ACTION four times.

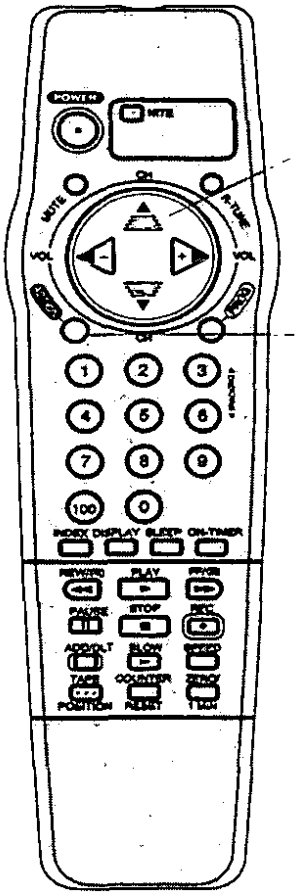


Time Stamp Feature

The Combination VCR writes program data (see example below) about the first 10 seconds of every recording. The information is then displayed the first 10 seconds of playback. To change the data, see "Changing Time Stamp Data" section on next page.

Check list before you begin.

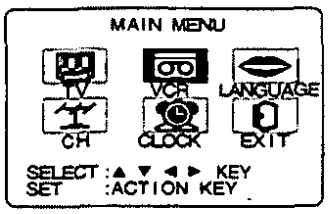
- ☐ The clock is set to correct time.
- ☐ The record tab is in place.

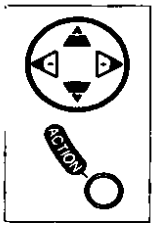


1 Display MAIN MENU.

Press ACTION.

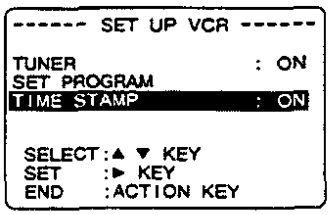
2 Display SET UP VCR screen.

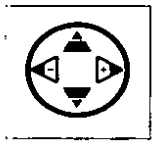




1) Press ▲▼◀▶ to select "VCR."
2) Press ACTION to display.

3 Select TIME STAMP.





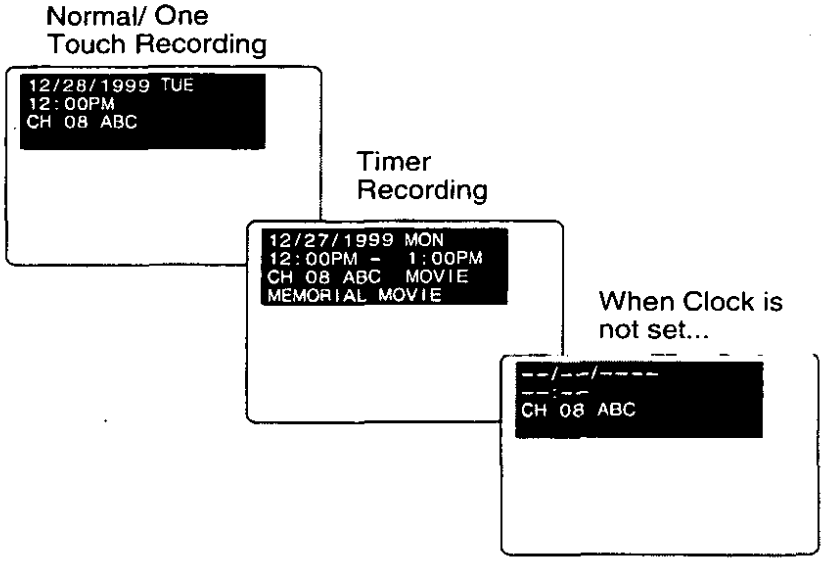
1) Press ▲▼ to select.
2) Press ▶ to set "ON" or "OFF."

- When "OFF" is selected, the program data is written on the tape, but will not be displayed.

4 Return to normal screen.

Press ACTION twice.

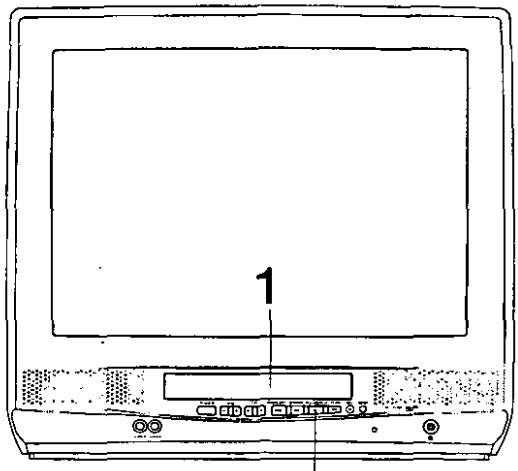
<Time Stamp Example >



Changing Time Stamp Data

You may change the time stamp data (Date, Time, Channel, Category, and Notes) as desired.

Model AG-520D unit is shown here.



1 Display Time Stamp Data.

PLAY

1) Insert cassette with record tab.
2) Press PLAY.

2 Display TIME STAMP EDIT.

```
12/27/1999 MON
12:00PM ~  1:00PM
CH 08 ABC  MOVIE
MEMORIAL MOVIE
```

PROG

Press PROG <u>while the data is displayed in playback mode.</u>

3 Change Time Stamp Data.

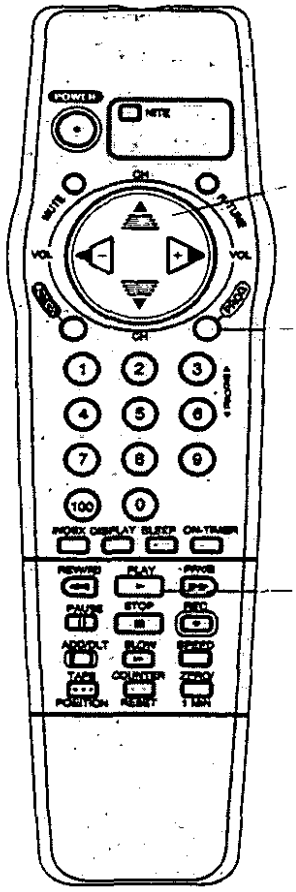
```
--- TIME STAMP EDIT ---
DATE : 12/27/1999 MON
TIME : 12:00PM ~  1:00PM
CH   : 08 ABC
CATEGORY : MOVIE
NOTES:MEMORIAL MOVIE----
------------------------
 SELECT:▲ ▼ KEY
 SET   :◄ ► KEY
 END   :PROG KEY
```

1) Press ▲▼ to select.
2) Press ► or ◄ to enter and continue.
   - Characters in NOTES will change in the following order.

A— B— C····· Z— BLANK— — —& → 9····· 2 —1— 0 —/ —! → A

3) Repeat 1) and 2) as needed.

To Make Corrections
Press ◄► to move to the incorrect entry, then press ▲▼ to make the correction.



4 Write the new data.

```
NOW WRITING TIME STAMP
```

PROG

Press PROG.

- After the data is written, the Combination VCR automatically goes into Stop mode.
- You cannot use POWER or REC button while "NOW WRITING TIME STAMP" is displayed.

V-Chip Control Feature

V-Chip Control Feature is...
The Combination VCR has built-in V-Chip Control which allows you to block unwanted TV usage based on Motion Picture and TV Parental Guide ratings.

Process of V-Chip Control Feature
Enter Code ⇨ Setup ⇨ Blocking

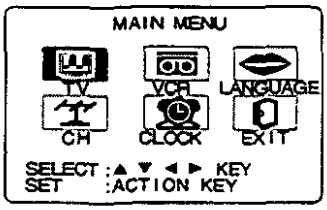
Enter Secret Code

A 4 digit code must be entered to view a blocked program or change rating settings.

1

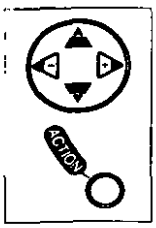
Display MAIN MENU.
Press ACTION.

2



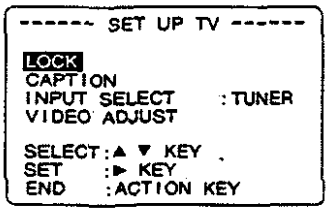
<The TUNER:ON main menu is shown>

Display SET UP TV screen.

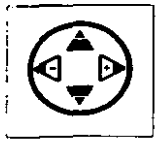


1) Press ▲▼◀▶ to select "TV."
2) Press ACTION to display.

3

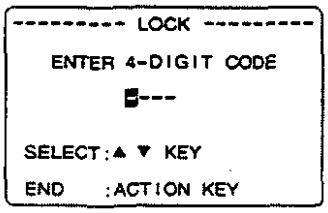


Select LOCK.

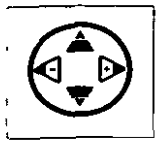


1) Press ▲▼ to select.
2) Press ▶ to display.

4



Enter your secret code.

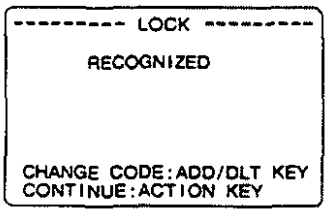


1) Press ▲▼ to select a number.
2) Press ▶ (or ◀) to set.

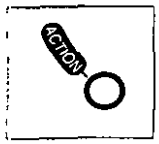
- Repeat step 4 until 4-digit is filled.
- Take care that you are not observed entering the secret code.

To Make Corrections
Press ◀▶ to move the cursor and ▲▼ to make the correction.

5

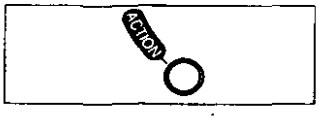


Save 4-DIGIT CODE.

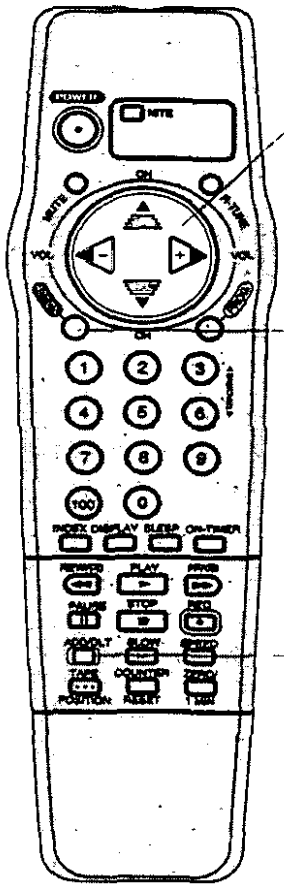


Press ACTION.

6



Display LOCK menu for rating screen.
Press ACTION and go to:
page 29 (MOTION PICT. Ratings),
or page 30 (TV PARENTAL Ratings)
Or,
to exit, press ACTION four times.



Change your secret code
- You will need your current code.

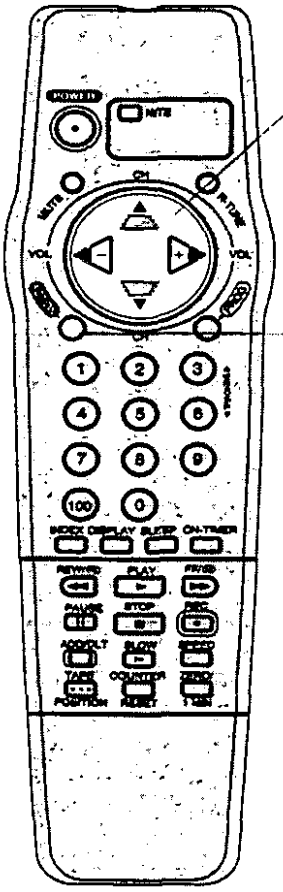
Do steps 1~4. In step 5, press ADD/DLT to clear current code. Repeat steps 4 and 5 to enter new code.

Setup MOTION PICT. (PICTURE) Ratings

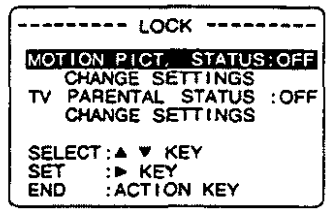
If LOCK menu is not displayed, do "Enter Secret Code" steps on page 28.

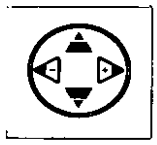
Process of V-Chip Control Feature

Enter Code ⇨ **Setup** ⇨ Blocking



1 **Select MOTION PICT. STATUS.**



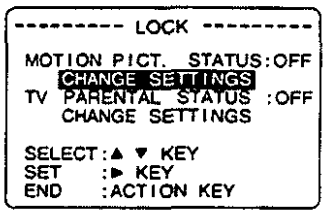


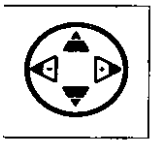
1) Press ▲▼ to select.
2) Press ▶ to set "ON" or "OFF."

If you select MOTION PICT. STATUS:

- **"ON" → V-Chip Control is activated.**
- **"OFF" → V-Chip Control is deactivated.**

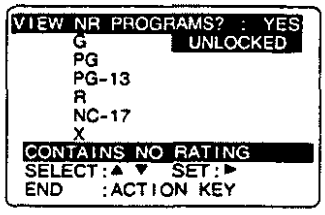
2 **Select CHANGE SETTINGS.**

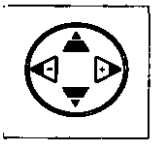




1) Press ▲▼ to select.
2) Press ▶ to display.

3 **Select VIEW NR PROGRAMS?**

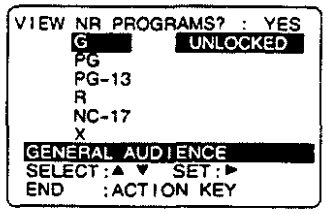


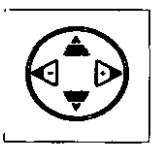


1) Press ▲▼ to select.
2) Press ▶ to set "YES" or "NO."

NR (Not Rated) PROGRAMS
Some movies, such as old movies or foreign movies usually have no ratings.

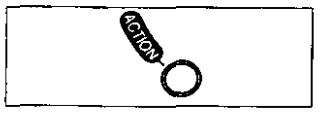
4 **Select ratings to be blocked. (See right.)**





1) Press ▲▼ to select.
2) Press ▶ to set.

5 **Redisplay LOCK menu to continue setup.**



Press ACTION and go to page 30 (TV PARENTAL Ratings)

Or,

to exit, press ACTION four times.

MOTION PICTURE RATINGS

G	GENERAL AUDIENCE: All ages admitted.
PG	PARENTAL GUIDANCE: Some material may not be suitable for children.
PG-13	PARENTS CAUTIONED: Some material may be inappropriate for children under 13.
R	RESTRICTED: Under 17 requires accompanying parent or adult children.
NC-17	OVER AGE 17 ONLY: No one 17 and under admitted.
X	ADULTS ONLY:

V-Chip Control Feature (continued)

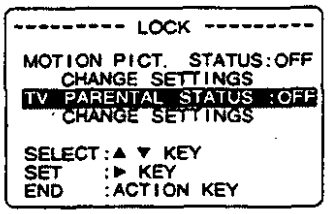
Setup TV PARENTAL Ratings

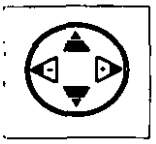
Process of V-Chip Control Feature

Enter Code ⇨ **Setup** ⇨ Blocking

If LOCK menu is not displayed, do "Enter Secret Code" steps on page 28.

1 Select TV PARENTAL STATUS.



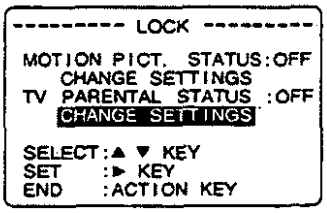


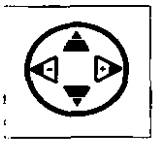
1) Press ▲▼ to select.
2) Press ▶ to set "ON" or "OFF."

If you select TV PARENTAL STATUS:

- **"ON" → V-Chip Control is activated.**
- **"OFF" → V-Chip Control is deactivated.**

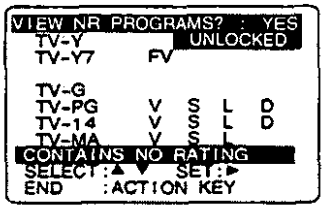
2 Select CHANGE SETTINGS.

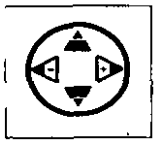




1) Press ▲▼ to select.
2) Press ▶ to display.

3 Select VIEW NR PROGRAMS?

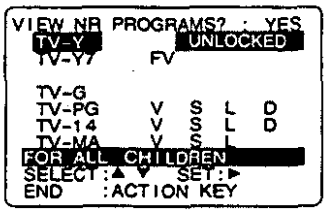


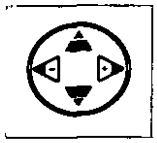


1) Press ▲▼ to select.
2) Press ▶ to set "YES" or "NO."

NR (Not Rated) PROGRAMS
Some TV shows, such as news, sports, weather, bulletins, emergency information usually have no ratings.

4 Select ratings to be blocked. (See next page.)





1) Repeatedly press ▲▼ to select.
2) Press ▶ to set.

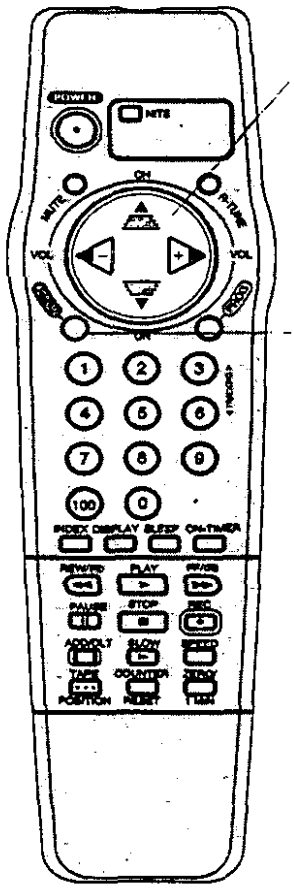
- Ratings which are highlighted in GREEN will be blocked, when not highlighted (white letters), these will not be blocked.

Note

You may select from standard TV ratings (chart 1), or customize to a specific content rating (chart 2).

5 End setup.

Press ACTION four times.



TV PARENTAL GUIDE RATINGS: Chart 1

TV-Y	FOR ALL CHILDREN: Content specifically geared to young viewers ages 2-6.
TV-Y7	FOR AGE 7 AND OLDER: May contain mild physical or comedic violence which may frighten children under 7.
TV-G	GENERAL AUDIENCE: Contains little or no violence, strong language, or sexual dialogue or situations.
TV-PG	PARENTAL GUIDANCE: May contain infrequent coarse language, limited violence, some suggestive sexual dialogue and situations.
TV-14	PARENTS CAUTIONED: May contain sophisticated themes, sexual situations, strong language, and more intense violence.
TV-MA	MATURE AUDIENCE: May contain mature themes, profane language, graphic violence, and sexual situations.

TV PARENTAL GUIDE RATINGS: Chart 2

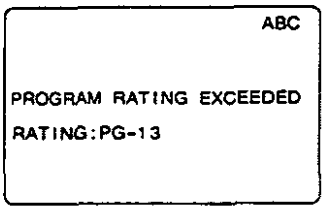
FV	Fantasy Violence
V	Violence
S	Sexual Situations
L	Adult Language
D	Sexually Suggestive Dialogue

Process of V-Chip Control Feature

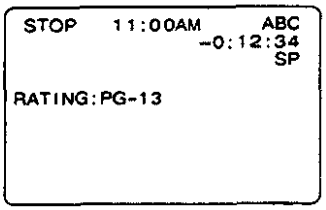
Enter Code ⇨ Setup ⇨ **Blocking**

Blocking Message

<When V-Chip Control is activated>



- If V-Chip Control is activated, and a program or movie exceeds the ratings you have set, a message will appear on a black background and sound is muted.



- If DISPLAY is pressed, even when V-Chip control is deactivated, rating is displayed on-screen.

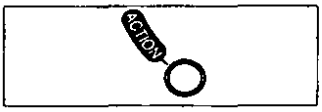
To Continue Viewing a Blocked Program

After entering your 4 digit secret code, go to step 1 on both pages 29 and 30w and select "OFF" to deactivate V-Chip Control.

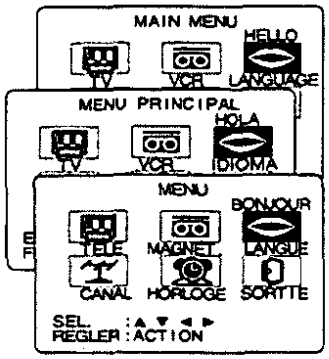
- The previous MOTION PICT. and TV PARENTAL settings will be restored.

Reset Language, Channels, Clock

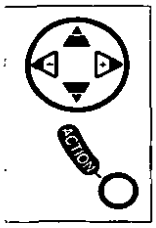
Language

1 

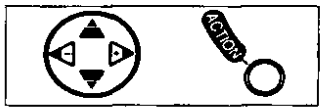
Display MAIN MENU.
Press ACTION.

2 

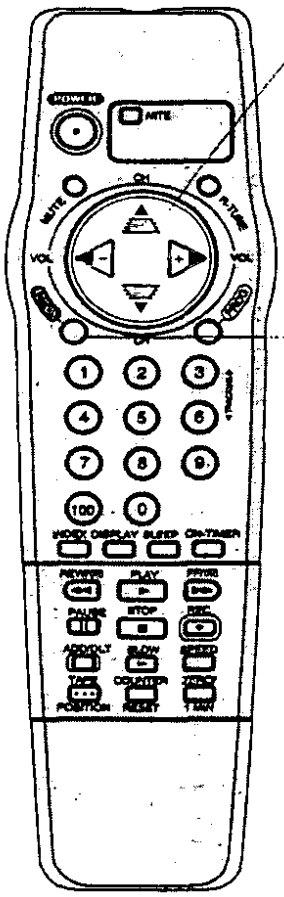
Select the language selection icon.



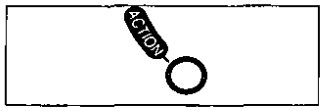
1) Press ▲▼◄► to select.
2) Press ACTION repeatedly to set.
English:LANGUAGE
Spanish:IDIOMA
French:LANGUE

3 

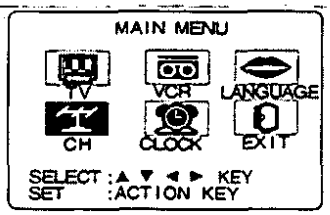
End setup.
1) Press ▲▼◄► to select "EXIT."
2) Press ACTION to exit.



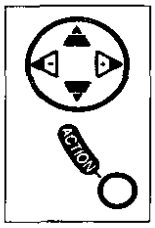
Channels (TUNER:ON only)

a 

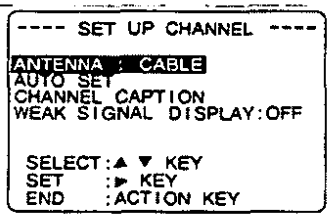
Display MAIN MENU.
Press ACTION.

b 

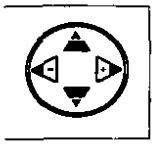
Display SET UP CH screen.



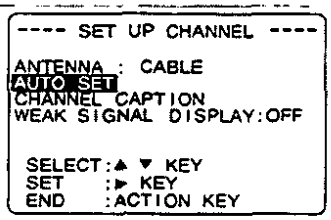
1) Press ▲▼◄► to select "CH."
2) Press ACTION to display.

c 

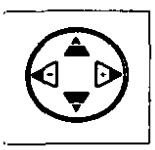
Select ANTENNA.



1) Press ▲▼ to select.
2) Press ▶ to select your antenna system ("TV" or "CABLE").

d 

Select AUTO SET.



1) Press ▲▼ to select.
2) Press ▶ to start.

e

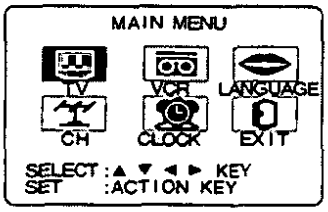
End setup.
Press ACTION twice.

Picture Adjustment

1

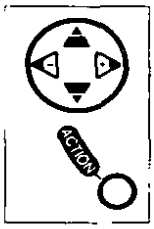
Display MAIN MENU.
Press ACTION.

2



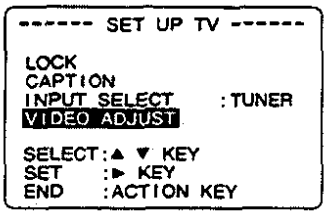
<The TUNER:ON main menu is shown>

Display SET UP TV screen.



1) Press ▲▼◀▶ to select "TV."
2) Press ACTION to display.

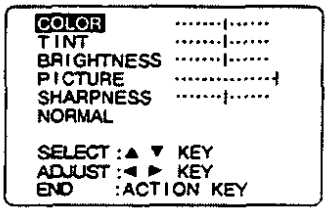
3



Display VIDEO ADJUST screen.

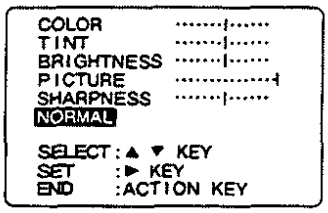
1) Press ▲▼ to select.
2) Press ▶ to display.

4



Adjust desired item.

1) Press ▲▼ to select an item. (See below right.)
2) Press ◀▶ to adjust.

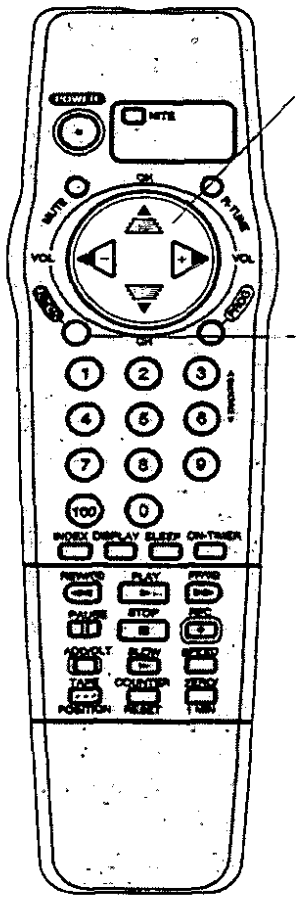


To Reset Picture Controls

Press ▲▼ and ▶ to select and set "NORMAL."
All controls return to their factory settings.

5

End setup.
Press ACTION three times to exit.



Picture Adjustment

COLOR Control
Adjust color intensity.

TINT Control
Adjust for natural flesh tones.

BRIGHTNESS Control
Adjust picture brightness.

PICTURE Control
Adjust picture intensity by adjusting both contrast and color level in the proper balance.

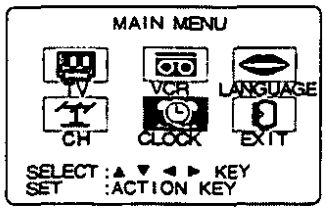
SHARPNESS Control
Adjust picture sharpness.

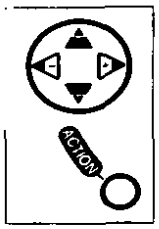
Clock

1 **Display MAIN MENU.**

Press ACTION.

2 **Display SET CLOCK screen.**

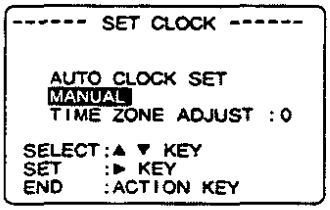


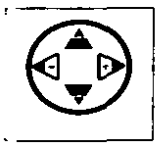


1) Press ▲▼◀▶ to select "CLOCK."
2) Press ACTION.

3 **--- Only when TUNER:ON is selected ---**

Display MANUAL screen.

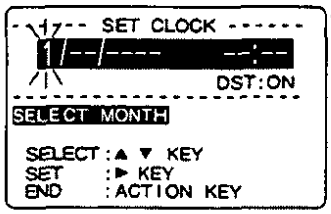


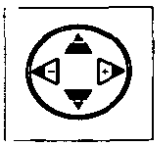


1) Press ▲▼ to select "MANUAL."
2) Press ▶ to set.

• For Auto Clock Set, select "AUTO CLOCK SET" then press ▶ to set and CH▲ to start.

4 **Set the clock manually.**





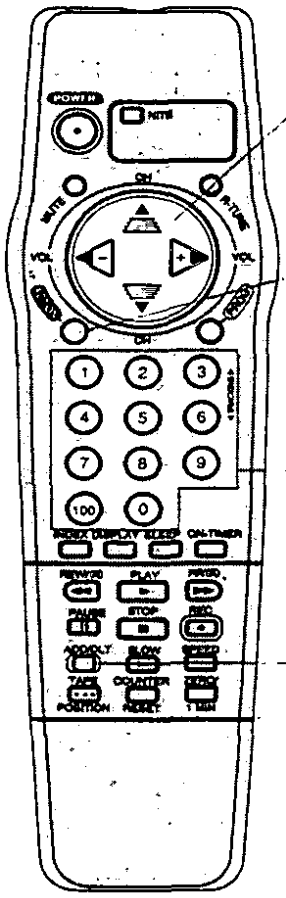
1) Press ▲▼ to select the month.
2) Press ▶ to set.

• Likewise set date, year, time, and DST. (Daylight Saving Time).

To Make Corrections,
repeatedly press ◀▶ to move to error, then correct.

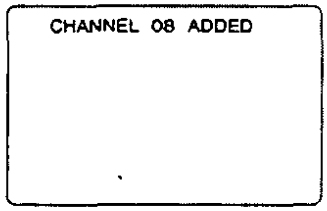
5 **End setup.**

Press ACTION twice to start the clock and exit this mode.

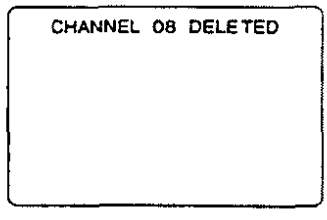


Add or Delete a Channel (TUNER:ON only)

To add channel:
Select channel with NUMBERED keys and press ADD/DLT.



To delete channel:
Select channel with CH▲▼ or NUMBERED keys and press ADD/DLT.



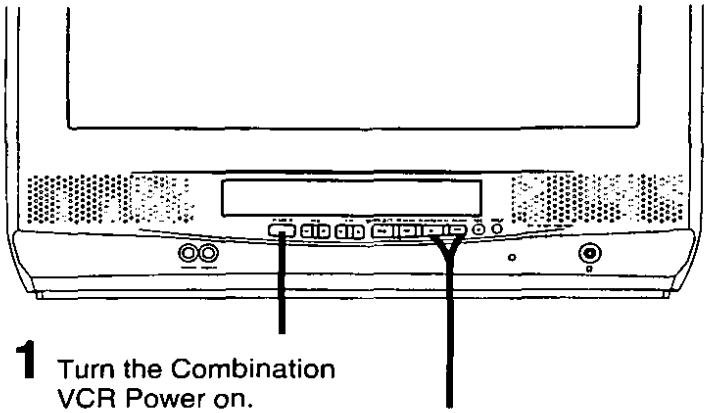
Unit Information

Reset all Combination VCR Memory Functions

Use when moving Combination VCR to new location, or if a mistake was made in the One Time Setup section.

- Make sure a tape is not inserted in the Combination VCR.

Model AG-520D unit is shown here.



1 Turn the Combination VCR Power on.

2 Press and hold both the PLAY and FF on the Combination VCR for more than 5 seconds.

- The power will shut off.

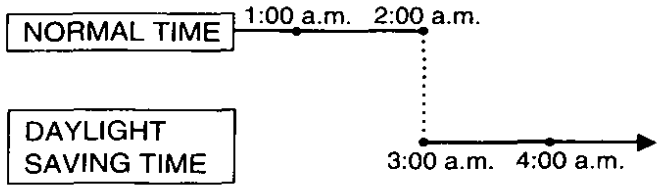
3 Do "One Time Setup" Steps on page 6.

DST (Daylight Saving Time)

Combination VCR auto adjusts clock for DST (Daylight Saving Time.)

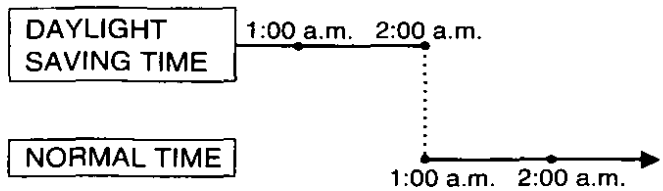
Spring (First Sunday in April)

DST:ON → Sets clock ahead one hour.



Autumn (Last Sunday in October)

DST:ON → Turns clock back one hour.



- If your area does not observe Daylight Saving Time, select DST: OFF.
- Keep these time changes in mind when programming the Combination VCR for timer recordings.

Features for Quality Picture

Digital Auto Tracking

Continuously analyzes the signal and adjusts for optimum picture quality.

Manual Tracking Control (to reduce picture noise)

Use during Playback and Slow Motion mode to reduce picture noise.
Press the 3 or 6 NUMBERED key on the remote control or CH ▲▼ on the Combination VCR until the picture clears up.
To return to Auto Tracking, press POWER off, then on again a few seconds later.

V-Lock Control

In Still mode, the 3 or 6 NUMBERED key on the remote control or CH ▲▼ on the Combination VCR operate as a V-Lock control to reduce jitter.

Black Tube <For Model AG-520D only>

This Combination VCR uses Black tube for better color reproduction and picture contrast.

Specifications

Display

Picture Tube:	13 inch (AG-513D) 20 inch (AG-520D) measured diagonal 90° deflection Picture Tube

VCR

Video Recording System:	4 rotary heads helical scanning system
Audio Track:	1 track
Tuner:	
Broadcast Channels:	VHF 2~13, UHF 14~69
CABLE Channels:	Midband A through I (14~22) Superband J through W (23~36) Hyperband AA~EEE (37~64) Lowband A-5~A-1 (95~99) Special CABLE channel 5A (01) Ultraband 65-94, 100-125

General

Power Source:	120V AC, 60 Hz
Power Consumption:	Power On Approx. 69 watts (AG-513D) Approx. 110 watts (AG-520D) Power Off Approx. 4.5 watts
Television System:	EIA Standard NTSC color
Speaker:	1 piece
Operating Temperature:	5°C~40°C (41°F~104°F)
Operating Humidity:	10%~75%
Weight:	12 Kg (26.4 lbs.) (AG-513D) 23 Kg (50.7 lbs.) (AG-520D)
Dimensions:	386 (W) X 385 (H) X 374 (D) mm (AG-513D) 15-3/16" (W) X 15-3/16" (H) X 14-3/4" (D) 515 (W) X 505 (H) X 474 (D) mm (AG-520D) 20-5/16" (W) X 19-7/8" (H) X 18-11/16" (D)

Note: Designs and specifications are subject to change without notice.

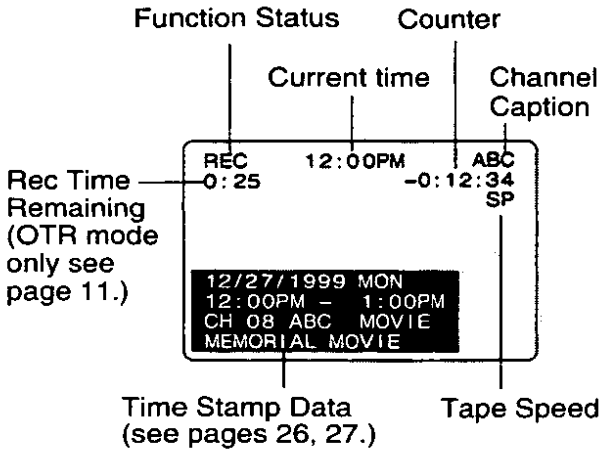
On-Screen Displays (OSD)

VCR Status & Clock Display

DISPLAY

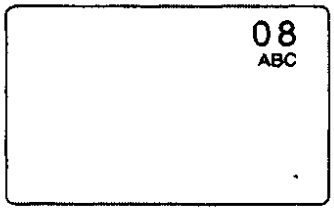
To display or remove the overlay.

Press DISPLAY.



Channel & Function Display

When a function button is pressed (PLAY, FF, etc.) or you change channels, the Combination VCR mode or channel number will be displayed.
(Some station names may also appear if Channel Caption is set. See pages 24, 25.)

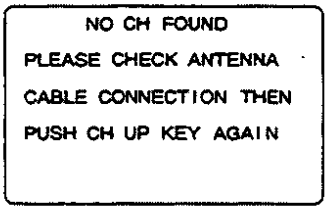


Blue Screen Display

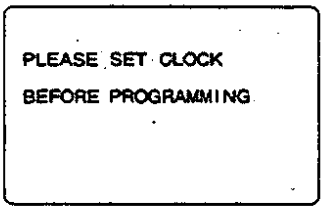
Whenever a blank section of a tape comes up in Play mode, or when the selected channel has no broadcast signal with the "Weak Signal Display ON/OFF" (page 23) set to "OFF," the TV screen will turn solid blue.

Warning and Instruction Displays

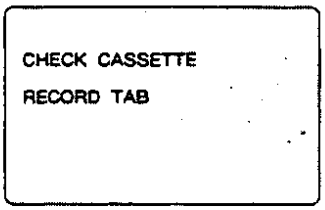
These displays will alert you of a missed operation or provide further instructions.



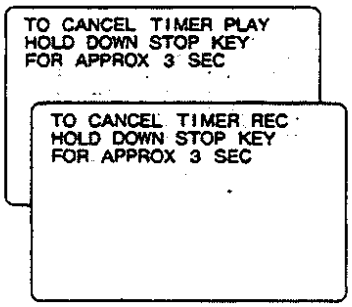
If no active channels are found for CHANNEL MEMORY...
(see page 5.)



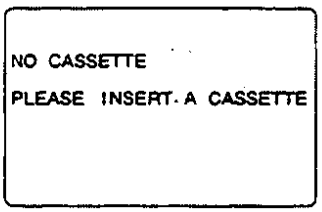
If you attempt to set or review a Timer Playback, Timer Recording or set the On Timer and the Clock is not set...
(see pages 6~8.)



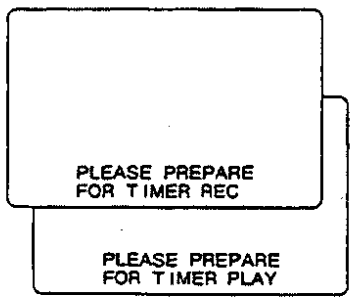
If you push REC on the remote control or the Combination VCR, and a cassette is inserted with no record tab...
(see page 11.)



If you push STOP during a Timer Playback or Timer Recording...
(see page 13, 15.)



If you push PLAY, FF, REW, or REC on the remote control or the Combination VCR without a cassette inserted...
(see pages 10, 11.)



If Combination VCR is not in Stop mode or a cassette is not inserted two minutes before a Timer Playback or Timer Recording is about to begin...
(see pages 12~15.)

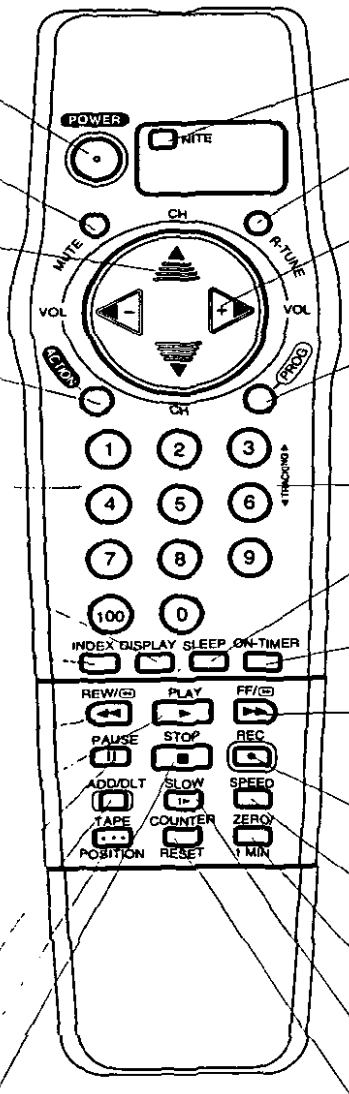
Before Requesting Service

Check the following points once again if you are having trouble with your Combination VCR.

Power	Correction
No power...	• Completely insert Power Plug into an AC outlet. • Set POWER button to ON.
Monitor	**Correction**
No picture or sound...	• Make sure your antenna system (TV or CABLE), is correctly set. (P. 5) • Completely insert Power Plug into an AC outlet. • Check that POWER button is set to on.
Poor picture with normal sound...	• Adjust BRIGHTNESS, SHARPNESS, and PICTURE controls in the SET UP TV menu. (P.34)
Poor sound with normal picture...	• Adjust VOLUME control. (P.9)
Poor TV reception...	• Adjust SHARPNESS and PICTURE controls in the SET UP TV menu. (P.34)
No color or poor color...	• Adjust TINT and COLOR controls in the SET UP TV menu. (P.34)
Ghost (multiple) images...	• Install a directional antenna.
TV programs cannot be watched...	• Make sure that the channel being received is in the Combination VCR's memory. (P. 7, 32)
Channel cannot be selected...	• The design of this unit is such that only the channel being recorded can be viewed.
VCR	**Correction**
TV program cannot be recorded...	• Make sure your antenna system (TV or CABLE), is correctly set. (P. 5) • Make sure cassette record tab is intact. (P. 4)
Timer Playback/Recording cannot be performed...	• Check clock is set to current time and date. • Make sure DSS/CABLE box (if used) is left on and tuned to channel to be recorded. • Set Playback/Recording Start/Stop time correctly. (P.12-15) • Timer Playback/Recording may not be performed or continued if a power interruption of more than 1 minute occurs before or during a Timer Playback/Recording, after power is restored.
No playback picture, or the playback picture is noisy or contains streaks...	• Adjust TRACKING control in either direction. (P.35) • Try Head Cleaning. (P.4)
VCR cannot be controlled...	• Make sure PLAY LOCK is set to off. (P. 22) • Make sure unit is not in a Timer Playback/Record operation.
Remote Control	**Correction**
Combination VCR cannot be controlled...	• Aim Remote directly at the remote sensor on the Combination VCR. (P. 39) • Avoid any object blocking signal path. • Inspect the remote batteries. (P. 4) • Make sure PLAY LOCK is set to off. (P. 22) • Exposing Combination VCR remote sensor to direct fluorescent or outdoor light may cause signal interference.
Miscellaneous	**Correction**
Video cassette cannot be inserted...	• Insert the cassette window side up; record tab facing you.
Video cassette cannot be removed...	• Completely insert Power Plug into an AC outlet.
Eject does not function or insertion cannot be done...	• Turn the POWER off and then on, and try ejecting or inserting the tape again.
Video cassette ejects when a recording is started, or the power is turned off for timer recording...	• Make sure cassette record tab is intact. (P. 4)
In stop mode, the VCR motor (CYLINDER) continues to rotate...	• To enable Quick Play mechanism, the VCR cylinder will rotate for about 5 minutes. This reduces response time from Stop to Play mode and from Play to Rewind Search mode.
VCR cannot be controlled...	• Make sure PLAY LOCK is set to off. (P. 22)

Location of Controls

Remote Control Buttons



POWER
See pages 6, 9.

MUTE
See pages 9, 19.

CHANNEL UP/DOWN SELECT UP/DOWN
See pages 6~9, 11~15, 17~21, 23~30, 32~34.

ACTION
See pages 6~8, 11, 18, 19, 23~26, 28~30, 32~34.

NUMBERED KEYS
See pages 9, 11, 20, 33.

DISPLAY
See pages 11, 17, 22, 36.

INDEX
See pages 20, 21.

REWIND/SEARCH
See pages 10, 20, 21.

PLAY
See pages 10, 21, 22, 27.

PAUSE
See pages 10, 11.

ADD/DELETE
See pages 13, 15, 17, 24, 25, 28, 33.

TAPE POSITION
See page 22.

STOP
See pages 10, 11, 13, 15, 21.

NITE
See page 9.

RAPID TUNE
See page 9.

VOLUME UP/DOWN SET/BACKSPACE
See pages 6~9, 11~15, 17~21, 23~30, 32~34.

PROGRAM
See pages 12~15, 27.

TRACKING UP/DOWN
See page 35.

SLEEP
See page 17.

ON-TIMER
See page 17.

FAST FORWARD/SEARCH
See pages 10, 20, 21.

REC
See page 11.

SPEED
See page 11.

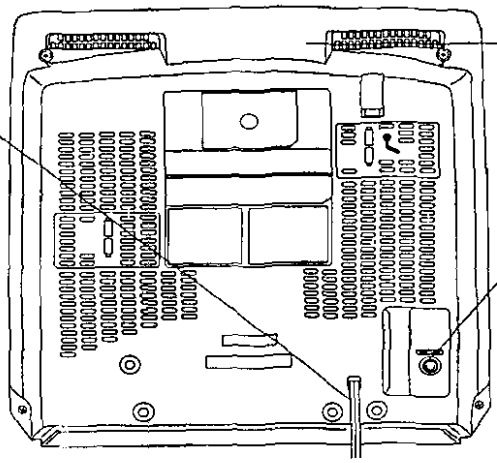
ZERO/1 MINUTE SKIP
See page 22.

SLOW
See page 10.

COUNTER RESET
See page 22.

Rear View of the Combination VCR

Model AG-513D unit is shown here.



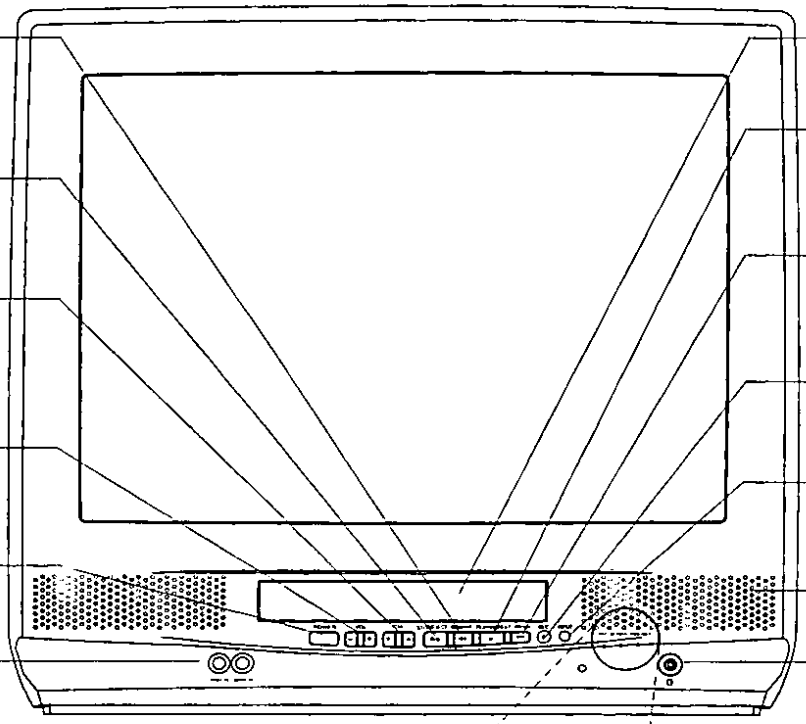
AC Power Plug
When plugged into an AC outlet, the Combination VCR consumes 4.5 W of electric power in OFF condition.

Easy-Grip-Handle
<Model AG-513D only>
Use when transporting the Combination VCR.

VHF/UHF Antenna Input Terminal
In from your Antenna or Cable.
See page 5.

Front View of the Combination VCR and Indicators on the Front Panel

Model AG-520D unit is shown here.



REWIND/SEARCH ACTION
See pages 6, 7, 10, 12~15, 20, 21.

STOP/EJECT ACTION
See pages 6, 7, 10~15, 21.

CHANNEL UP/DOWN
TRACKING UP/DOWN
SELECT UP/DOWN
See pages 6, 7, 9, 11~15, 35.

VOLUME UP/DOWN
SET/BACKSPACE
See pages 6~9, 12, 15.

POWER
See pages 6, 9, 35.

Audio/Video In Jacks
See page 16.

Cassette Compartment
See pages 10, 11, 27.

PLAY/REPEAT
See pages 9, 10, 21, 22, 27, 35.

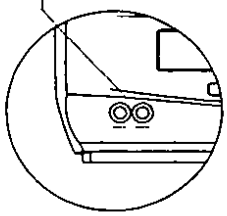
FAST FORWARD/ SEARCH
See pages 10, 20, 21, 35.

REC
See page 11.

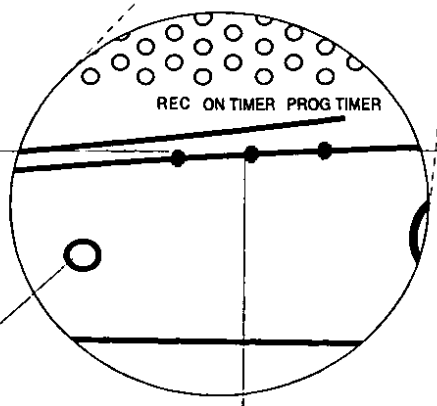
INPUT
See page 11.

Built-In Speaker

Phones Jack
See page 9.



For Model AG-513D



REC Indicator
Lights during recording. In Rec Pause or OTR Pause mode, the indicator flashes.
See page 11.

PROG TIMER Indicator
Lights when the Combination VCR is set for Timer Recording. It flashes when a Timer Recording has been set with no tape inserted, the clock is not set, or the tape is in motion.
See pages 11, 13, 15.

Remote Sensor

ON TIMER Indicator
Lights when the On Timer is set.
See page 17.

Panasonic

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